

*Building news  
and architectural review*

G. GEWITT SC.





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THE  
BUILDING NEWS

And Architectural Review:

A WEEKLY ILLUSTRATED RECORD

OF

THE PROGRESS OF ARCHITECTURE,

SCULPTURE, PAINTING, ENGINEERING,  
METROPOLITAN IMPROVEMENTS, SANITARY REFORM,

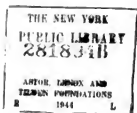
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NEW-STREET SQUARE





**KERR, Professor, Life of Wesley Fugate.** *The Valley Garden at, 235.*  
**Knapp's Patent Patent, Poultry,**

**L**

**LABOUR, the Dignity of, 357.**

**Labourers' Cottages, 355, 411, 420.**

**Dwellings, 127, 128, 129, 130.**

**Landscaping, Importance, Essentials of**

**Healthy Dwellings for, 41.**

**Land and Building, 127, 128, 129, 130.**

**Conservative Society, 360, 411.**

**Remaining from Sea, 360, 411.**

**Law Courts, Concentration of, 127.**

**Lead Pipes, Water in, 41, Work on,**

**Level Catastrophe, 127, 128, 129, 130.**

**Legal Intelligence, 357, 411, 420.**

**Levantine Establishment at Sydney, 127.**

**Library, Birmingham Free, 357.**

**Life of Wesley Fugate, 235, 411, 420.**

**Lighthouse for the Welsh Coast, 5.**

**Great Ormeau, 127, 128, 129, 130.**

**Lighthouses in the Red Sea, 361.**

**Literature, 357, 411, 420.**

**Liverpool Public Playground, 357.**

**Locke, John, Statue to, 127, 128, 129, 130.**

**London, Art Union of, 127, 128, 129, 130.**

**Mid-dlesex Architectural Society, 127.**

**127, 128, 129, 130; Poor, Mr. Henry, and the**

**Street Architecture, 127, 128, 129, 130.**

**South, 235, 411, 420.**

**Love, Additions to the Collection, 357.**

**M**

**MACHINE, Combined, for Planning**

**and Trenching, 357.**

**Manchester, Lord, Statue of at Cam-**

**bridge, 357.**

**Manuel Monument (The), 357.**

**Many Hall, 357.**

**Manchester Architectural Associa-**

**tion, 127, 128, 129, 130.**

**Insurance, 357, 411, 420.**

**Library and Philosophical**

**Mahoe, the Pope, Painted Window,**

**357, 411, 420.**

**Members, the Late Lady, Monument**

**to, 357.**

**Mansion House, Works at the, 357.**

**Manufactures, Art in Connection**

**with, 127.**

**Markets, 127, 128, 129, 130.**

**Martello Tower, Demolition of, 357.**

**Mason's Strife (The), 357.**

**Masonic, Halcarron, Restoration, 357.**

**127, 128, 129, 130; The Prince Albert, 357.**

**Maudslayi, The Art of, 357.**

**Mason and Prazz, Mr. John, Institute**

**British Architects, 127, 128, 129, 130.**

**Memorial Court at the Great Exhi-**

**bition, 357.**

**Medievalism and Beauty, 357.**

**Memorial, Albert (The), 357, 411, 420.**

**127, 128, 129, 130; The Prince Albert, 357.**

**Memorial, Artillery, Woolwich, 357.**

**Memorial, Hastings, The late Prince**

**Albert, 357, 411, 420.**

**The late Prince Albert, 357, 411, 420.**

**London Painters', 127, 128, 129, 130.**

**The late Prince Albert, 357, 411, 420.**

**Reed, Dr. A., late President, 357.**

**St. Thomas's Hospital, 357, 411, 420.**

**St. Stephen's, 357, 411, 420.**

**British Reading Room, 411, Capital**

**from the Oxford, 127, 128, 129, 130.**

**Libraries, Suggested Pa-**

**trials, 127, 128, 129, 130.**

**Mr. G. G. Scott, 411, 420.**

**New, at Cambridge, 357, Removal**

**of the Statue, 127, 128, 129, 130.**

**357, 411, 420; South's, 357, 411, 420.**

**Curatorship of, 357, 411, 420.**

**South Kensington, 357, 411, 420.**

**Keatington Art Object Exhibition,**

**127, 128, 129, 130.**

**Keatington Art Object Exhibition, 127.**

**Keatington Art Object Exhibition, 127.**

**Keatington Art Object Exhibition, 127.**

**Keatington Art Object Exhibition, 127.**

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**Keatington Art Object Exhibition, 127.**

**Keatington Art Object Exhibition, 127.**

**Keatington Art Object Exhibition, 127.**

**RAILWAY BRIDGE, Blackfriars, the**

**Proposed, 127, 128, 129, 130.**

**Blackfriars, the Queen's, Chester, 411.**

**Blackfriars, the Queen's, Chester, 411.**

**Blackfriars, the Queen's, Chester, 411.**

**Blackfriars, the Queen's, Chester, 411.**

**Blackfriars, the Queen's, Chester, 411.**

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**Blackfriars, the Queen's, Chester, 411.**

**Blackfriars, the Queen's, Chester, 411.**

**Blackfriars, the Queen's, Chester, 411.**

**Royal Institute of British Architects,**

**127, 128, 129, 130.**

**Royal Institution of Great Britain,**

**411, 420.**

**Royal Water Supply, 127, 128, 129, 130.**

**Russia, the Emperor of, 127, 128, 129, 130.**

**Rust, W. on Retaining Walls, 357.**

**Rust, W. on Retaining Walls, 357.**

**Rust, W. on Retaining Walls, 357.**

**Rust, W. on Retaining Walls, 357.**

**Rust, W. on Retaining Walls, 357.**

**Rust, W. on Retaining Walls, 357.**

**Rust, W. on Retaining Walls, 357.**

**Rust, W. on Retaining Walls, 357.**

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**Rust, W. on Retaining Walls, 357.**

**Rust, W. on Retaining Walls, 357.**

**Rust, W. on Retaining Walls, 357.**

**Rust, W. on Retaining Walls, 357.**

**Rust, W. on Retaining Walls, 357.**

**Rust, W. on Retaining Walls, 357.**

**Rust, W. on Retaining Walls,**

## WHAT IS A TRUE ARCHITECT?



THE question—"What is meant by an architect," has been recently asked by a man of some influence and social position at a meeting of an influential society, the inquirer adding that he himself had been unable to arrive at the meaning of the term, though he had taken some trouble to try to do so. We refer, of course, to observations which fell from Mr. Cole at a recent meeting of the Society of Arts, and which were reported in a condensed form in our impression for December 20th, 1860. We conceive that, inasmuch as the chairman of that meeting declined to permit any reply to be made to these observations, although he failed to prevent them as he ought to have done had the subject been out of place, it is right to publish here something of what might have been said in reply to Mr. Cole's speech had leave been granted.

We shall merely, however, take the discussion at the Society of Art's rooms as a starting-point. We have already pointed out the want of candour and want of logic in Mr. Cole's speech, and are not going to dignify it by imputing to it a character of real inquiry after truth, to which it has no claim.

Although we are sure that Mr. Cole, judging only from the contents of his speech, knows enough about common things to be very well aware what an architect really is, had it suited his purpose to say so, his profession of ignorance is none the less remarkable.

Here is a great and influential body of men practicing a distinguished and ancient art, and yet an Englishman, not without education and attainments, and claiming to be considered a leading man, can stand up amidst an attentive audience and venture to say that he cannot understand to whom to apply the name distinctive of this body, without a fear that his reputation should suffer thereby! Such an event makes it our duty to try to understand what a true architect is, and whether there is any real ground for mistake as to the term.

Architect is a word in use in nearly if not all European tongues, and is derived by them from the Greek, through the Latin. It and the related word architecture mean, the one highest, best, or chief builder, and the other highest, best, or chief building; an architect or architect-builder being a first or chief builder in relation to other builders, just as an archbishop is a chief or first bishop, or an archangel a chief angel.

If then an architect is a chief builder, some will suppose the meaning of the word to be little, if anything, more than a master builder. Important words in the English language are, however, usually far more truly significant than this explanation would make the word architect to be; and if the reader will take the trouble to find out in all of them a person or an office is designated, about which a double meaning is conveyed, it being hard to say which idea is most prominent, that of being chief in the sense of being ruler, or that of being chief in the sense of being personally highest, foremost, and best.

This combined sense pervades the word now under consideration, and an architect is a chief builder, because he builds in the highest and best way, and his art is architecture or chief building, as being the noblest manner of building. He is also a chief builder as being director of others, but that this is the secondary sense of the word, the first named being the primary meaning, is significantly shown by the fact that no analogous secondary sense attaches to the cognate term architecture.

When we look at an architect in the first of these two aspects, that of a *best builder* we understand at once what is not always clear to some, namely, the combination of art and fine art, which he needs to possess. A building to be done in the best possible way must be arranged for the most convenient discharge of its functions, whatever they are. It must rest with perfect security on its foundations, must be constructed perfectly well, and in every part must show that the very best thing possible for that part was known to the master builder, and was done by him. And, above all this, the building must be, in its design and in its workmanship, a work of beauty, feeling, art. There must be as much appropriateness of expression in it, and as much beauty in it as the circumstances will admit, and it is only when a building reaches all these requirements that it is a perfect building, and that its manner is the very highest building or perfect architecture; and it is only when its builder has attained this end that he is a perfect architect.

No human work is absolutely perfect, and there are few works of

art in which even ordinary spectators cannot see imperfections. Architecture, then, must embrace, and, in fact, must consist of, many manners of building short of perfection. Architects must be tolerated who fall below the ideal standard. What, then, if imperfections are to be tolerated, is the side where deficiency does the least harm? What, again, is the noblest of the qualities of a builder?—the presence of which ought most to entitle him to rank as an architect, even if weighed against defects in other qualities.

We are far, very far from being tolerant of defective construction, or faulty arrangement, and we never can withhold altogether our approval from buildings which display these two excellences, even if higher ones are strikingly absent; it is, however, hardly necessary to pause for a moment before deciding that it is not these, but the beauty and the expression of the building which are the highest and noblest of its characteristics, and that it is as a work of art, and not as a specimen of construction, that it will have its strongest hold upon human affection, and its highest claim to human regard.

Where a building reaches the highest possible pitch of artistic excellence its defects or excellencies, in a constructive point of view, are, for the most part, almost overlooked, and its arrangements are scrutinised with a comparatively careless eye.

Many an observer, nay, a worshipper, of the beauty of the finest remains of Medæval art would be quite unable to tell whether individual specimens had been well or badly built—say, would be torn and more delighted by some rudely constructed, clumsy piece of early work than by the most perfectly constructed fan groining or Perpendicular tracery of a late date. No one calls modern London houses works of architecture, and yet they cannot be exceeded as specimens of arrangement and adaptation. No one much loves many of our railway stations, where the best of materials and workmanship are displayed; and yet they are specimens of first-class structural skill, but with bad arrangement and no design. That Chichester steeple was so badly constructed that its own weight crushed it, has never been held to remove it from the position of a work of architecture of the highest order; and it is to the art, rather than the skill, of the architects of all ages that we turn with gratitude and reverence when we think of the great works of architecture with which the world is enriched.

We hold him, then, to be an architect who has shown himself able to build in the best manner, and we maintain that while the qualities of the artist and the workman ought to meet in him, it is the former, and not the latter, which make him a real architect. No mere constructor and arranger can be called an architect, if, while engaged on structures that might be made works of art, he infuses no art into his work. A mere artist might be an architect, were he able, in spite of errors in arrangement and defects in construction, to infuse a true spirit of art into his buildings; though, in fact, such examples are comparatively rare. Instances of the presence of a high constructive genius, with no high art, are, however, frequent, especially at the present day.

Never has there been a period, since the time of the Roman Empire, when so much merely utilitarian building has been done in one country, as has been performed in Great Britain, within the last half-century; and it is to this fact that we attribute the state of public ignorance or indifference, which alone could make it safe for an educated man to stand up among some hundreds of other educated men, and say, "I don't know what an architect is." The last century was not a building age, but, as England recovered strength after the great wars of Napoleon the First, she began a mighty course of building for purely utilitarian and commercial purposes. The cotton mills of Lancashire, the bonded warehouses of Liverpool, the docks of London, the factories of Birmingham and of Sheffield, the union workhouses, the prisons, the lunatic asylums, and the great network of canals, and the still greater network of railways, have all been vast works from which every consideration except that of use, construction, and arrangement, has been, in nine cases out of ten, rigorously excluded.

When architects in the true sense of the word have been entrusted with these works, they have ordinarily been forced to content themselves with attention to the first two parts of good building, omitting altogether the highest, and by degrees a profession has sprung up—that of civil engineers, consisting of men who only profess to study construction and arrangement, and to whose care works of most prodigious extent and importance have been entrusted.

There is no profession the members of which are less jealous and exclusive than the architects of England at the present day. The names of the great Renaissance architects whom Mr. Cole named in his speech are received among them, and honored without an inquiry as to whether the men had been "regularly articulated," or where or how they had learned their calling.

The works of men who prove that they can build at once like good constructors and true artists are the only evidence necessary—nay, the only evidence possible—of their being architects.

No man can learn the fine art of architecture any more than he can learn the constructive art of engineering, without prolonged and earnest

study directed to that particular branch of skill, and without natural ability; and architects are perfectly ready, as ready as the public, to recognise ability and genius when it is shown, without inquiry as to what school it has come from, well aware that it has not been attained without labor, study, and genius.

There is, however, a natural tendency to distrust those who have not been known to devote themselves to the regular study of architecture, and for the very good reason that that study is so important and formidable that few persons can possibly master it without great, long continued, and almost exclusive application to it. The great men named by Mr. Cole did not arrive at their skill in the art without labor and pains, and they acquired it in a way different from that often followed, and had the advantage of adding to its knowledge of other arts and sciences, it is none the less certain that they *did* acquire it; and the ease with which some of them added it to other great attainments is so proof of the smallness of the labor, but only goes to show the magnitude of the powers of mind possessed by a favored few, and that these men were exceptional instances is clear when we consider that they include the names of three out of the four greatest artists whom Italy produced—Giottto, Michel Angelo, and Leonardo—men who have been justly deemed giants, while, of the others named, nearly the whole devoted, after early youth, their *exclusive* attention to architecture, thus showing that if they were great enough to educate themselves to architecture they found it a study and an art filling up their whole time.

Now, it is not to be supposed that a military Engineer officer can have devoted any large amount of his time to the laborious study of the principles of beauty in building, and of the means which are under the architect's control for producing it. He has had other things to learn which are, like architecture, a life-study for a mind of ordinary capacity.

Accordingly, from the first moment when it was announced that the building was in the hands of an engineer, able as that engineer unquestionably is, every one expected what has come to pass—namely, that the structure would be a creditable piece of work, but not of construction, but that it would be a work of architecture; that is to say, that it would not rise to the height of the noblest manner of building, and that it would not exhibit the chief quality for which it gave scope; in short, that there would be much skill but little art, or in other words, that it would be good engineering but not architecture.

Thus much for the particular instance which has provoked this discussion. Turning from it once more to the general subject, we repeat, that an architect is an artist who builds, and whose buildings are as well arranged and as well constructed, and, above all, as noble works of art as the occasion and the circumstances of them allow.

It is only recently that any large amount of consideration has, within the present century, been paid to beauty in building, and consequently the public, long used to regard structural excellence as the very highest excellence in building; in fact, as architecture, have not thoroughly learned to appreciate the value of that art which makes the monuments of past ages a perfect fountain of delight to us their successors, and which will secure for some, and only some, of the many costly piles which the present generation has reared, a lasting place in the affections of our descendants.

Accustomed to works of domestic engineering we had, as a nation, become indifferent to anything higher, and it only by degrees that we can expect the public at large to be intelligently acquainted with what true architecture is, and consequently able to answer the question "What is a true architect?"

#### BATH ASSOCIATION OF BUILDERS.

WE have been asked to publish the following:—

"A short time since at the opening of the Liverpool Architectural Society, the President, Jas. M. Hay, Esq., in his address commented on strikes, and said, 'No permanent association exists among the masters, but in its place a mud-room combination, speedily got up to suit the emergency, which as speedily dies away the moment the contest is over.'"

"It is the need of this permanent association to which we would direct the attention of your readers, and urge upon them to adopt means for procuring the support of builders in their respective localities, to back a request to the London Association, asking them to take steps in the formation of a general and permanent Builders' Association."

"Such a course becomes imperatively forced upon us, if we would still retain a proper directive authority over our own affairs, and be in a position to protect well-intentioned and sensible men from the baneful influence of the Trade Unions so severely felt by many thousands of workmen, who are utterly unable to help themselves by breaking off connexion with men far to escape from its odious tyranny would be to forfeit their contributions to its benefit funds, thus sacrificing the savings of years, and incurring additional expense in joining others, and to which an insurmountable obstacle is in many cases offered by extreme age."

"Signed by the Secretary on behalf of the Bath Association of Master Builders."

#### METROPOLITAN MARKETS.

IF it were required to adduce an instance of blundering legislation, or of how over-careful provisions may end in a dead lock, no better case could be brought forward, perhaps, than that of the Cattle Market. Between the Corporation and Parliament a system of mutual checks has been instituted, for when, after a great deal of sparring, and much threatening of corporation reform, the civic authorities are forced to agree to execute improvements, Parliament or the Corporation are sure to insist on some other work being previously completed which the City is incapable or unwilling to undertake. It is about thirteen years since the meat-market question was brought forward in an official and tangible form. It had been agitated before by Mr. C. Pearson, in connexion with the construction of metropolitan railways; but it is not necessary to proceed further back than the year 1849, when it was taken up at the starting-point. Then the desirability of abolishing Newgate-market was admitted as an established fact, and vested interests had to give in. Two years later came the Metropolitan Cattle Market Act, which led to a committee of civic authorities being appointed to decide upon a site to which Newgate-market could be advantageously removed, to negotiate with Government to obtain a part of Smithfield for this site, and to enter into arrangements with the Metropolitan Railway Company for the establishment of railway communication between the proposed new dead-meat market and the slaughter-houses to be established in connexion with the cattle market at Islington.

Somewhere about 1857—it having taken six years to get so far—Mr. Hanning, the city architect, prepared plans and designs for the construction of the market to the north of Long-lane. Indeed, he prepared three plans, each affording apparently ample provision. There was to be a market area of 150,000 square feet, with a sufficient number of approaches, each 60 feet wide. The cost of site and of constructing the approaches was estimated at £254,000, and the cost of erecting the market was set down at £210,000, making the total outlay £464,000. A second scheme was subsequently proposed by the same gentleman, similar to the first, with the exception of an addition of an excavated basement, to serve as a railway goods station. The cost of site and approaches would be the same, but it would be divided into two sums, one of which, £150,000, would be charged to the markets, and the other, £214,000, to the account of the railway. The addition of the railway station would increase the cost of constructing the markets by £70,000, to £280,000, which it was also proposed to separate into two sums: that were to be charged, one, £188,000, to the market, and the other, £92,000, to the railway. The total cost would be thus raised to £515,000, of which, £376,000 would be on account of the market, and £139,000 on account of the railway. A third scheme was prepared by Mr. Bunning which provided warehouses in addition to the arrangements indicated in the second plan, which would swell the total to £647,000, namely, £235,000 for site and approaches, and £402,000 for constructions. The cost of site was to be apportioned, £150,000 to the markets, £47,000 to the railway, and £35,000 to the slaughter-houses; the estimates for construction were apportioned, £166,000 to markets, £87,000 to railways, and £150,000 to warehouses. The totals would then stand, estimated cost of markets, £301,000; of railway, £134,000; and of warehouses, £201,000. Neither of these schemes in its integrity appears to have been sanctioned; but a fourth was prepared, which, at present, seems to have the greatest chance of success. According to the architect's plans and elevations, the new dead-meat market is to be built on a site standing back to the north of the thoroughfare from Long-lane to King-street. It is to be 625 feet long by 240 feet wide, and 30 feet high. The total area will be, as before stated, 150,000 superficial feet, of which two-thirds are to be devoted to shop space, and one-third to the construction of a main road running north and south, intersected by broad straight thoroughfares. It is to have roads of access on the eastern, western, and northern sides, each 60 feet wide. The basement is to be excavated for a railway station, where trains will bring from the Islington slaughter-houses and provinces, dead meat and poultry, that will be hoisted into the market directly without passing through the streets at all. The estimated cost of the market, for construction, is £295,000 for sites and approaches. The warehouses seem to have been abandoned by the City, and that may not be an evil, for if left to private enterprise they will be more likely to prove successful speculations, and to have a higher architectural character. We shall thus have the total cost of the markets £415,000, and even that is likely to be augmented by the delay which has admitted of buildings being erected on various parts of the site, for which compensation will have to be paid when the market comes to be built. This is the price we have to pay for procrastination.

In addition we ought, perhaps, to take into consideration the City's subscription of £200,000 to the funds of the Metropolitan Railway Company. Not that there is any reason why it should not be so, or that as recuperative a venture as any which has admitted of the New River Company. The Corporation, however, when it is believed, quite ready to embark in the outlay of £415,000, when came the stumbling block interposed by the wisdom of Parliament. The last Act reduced the tolls from 3s. 4d. to 2s. 2d. a ton on representations made by meat salesmen, which is a gross inconsistency in these days of Free trade, and which is a direct interference with commercial liberty have been called upon to abolish the Usury laws. The pretext for this interference was the protection of the consumer; but the consumer finds from sad experience that the less he is protected the more cheaply he can live, and that his most efficient protection is to be let alone, which leads to unrestricted competition, wherein he finds ample security for his pocket. The Corporation, just as any private individual

A NEW WATERPROOF CLOTH.—It is stated that Mr. Szeerlemy has discovered the means of rendering a woven fabric completely impervious to wet or damp, and will not crack or shrink, permit the penetration to pass off, is exceedingly soft to the foot, and will fit it as a glove fits the hand. The product is called Panoela.

or firm, is entitled to a fair remuneration for outlay, and if that outlay is for public convenience those who profit by it ought to pay for it. If, by the interference of Parliament, this fair remuneration be dissolved, capital will not be forthcoming. The Corporation, it must be remembered, have no available capital, but will have to borrow it to build the markets. The remuneration afforded by market tolls being insufficient the difference will have to be made up in some other way. That is lovable, and must be clear to the clearest understanding, so that we shall have two taxes upon a twofold cost of collection to defray one item of cost. In reality the interest of the consumer has been consulted at all, but the interests of meat salesmen. The toll proposed in the Bill brought forward by the Corporation was a farthing a stone, or 3d. 4d. the ton. The Legislature, at the instigation of the meat salesmen, and on the pretence of protecting consumers, reduced the toll to 2d. The great economy of 14d. will, suppose the consumer has not been consulted at all, reduce the price of which he is likely to be deflected down again. As a reference was made to the Paris central markets, we may state they have twice the altitude of Mr. Bunning's design, and we may also add that Mr. Vallance's assertions with respect to the Halles Centrales are altogether erroneous. They are not "fancy structures," but are ten huge shells connected by covered ways. They are built after the Crystal Palace style, of iron columns tied together and supporting a light zinc roof. The spaces between the columns on the outside are filled up to about 8 feet above the ground with brickwork, and at top with louver boards. They did not cost "more than £2,000,000," nor anything like it, but the purchase of site for the erection of the markets, the construction of the approaches, and the formation of the Square des Halles have necessitated a large outlay, the amount of which, as we are known, as important work remains to be executed. The tenth shed, or pavilion, as it is called, is included in this year's estimates; next year and after there will have to be executed the completion of the Rue des Halles, the opening of a new street between Rue de la Tonnerrie and Rue St. Denis, the Rue de la Vierge, and the Rue de la Vierge. Then, though the Halles, the system is quite different to what exists here. In Paris butchers buy live cattle at Puits market, which are sent to the *abattoirs* to be slaughtered and dressed and afterwards transferred to their shops. Little dead meat, if any, is supplied from the provinces, and there are no market salesmen. Of late years, and since the butchers' trade has been thrown open by a law passed in 1854, the system of retailing has been changed. Butchers do not buy there, or only those who have stalls for retail dealing in the Halles and various market-places of the capital. In fact, we cannot institute comparison between London and Paris markets, and it would, therefore, be absurd to seek to copy them. Paris markets more closely resemble eastern bazaars than ours do, and are an aggregation of stalls of retail dealers who cannot afford to pay rents for shops, rather than for wholesale transactions, although, of course, they do take place.

From evidence given by a salesman before a Select Committee of the House of Commons, it would appear that in Newgate-market 100,000 tons of meat were annually sold. On a former occasion, two years ago, it was estimated at 60,000 tons. Taking the salesman's figures as correct then, the reduction of 14d. a ton in tolls, will cost £5,800 a year into their pockets, which is equivalent to a capital of £165,000. Why should the Corporation lose this amount?—or rather why should fresh taxes be imposed on the existing taxes derived from the same channels to flow into the pockets of middlemen, and Londoners should be made to suffer to that extent for their gain?

Not content with rendering the raising of capital difficult, and the imposition of new taxes probable, the legislature tasked a condition to the Act which up to the present time has operated to prevent the works being begun. Parliament has passed a clause prohibiting the Corporation from opening the market, and railway companies from using the station, until after a street had been constructed 60 feet wide from Victoria-street, at or near West-street, to the new market. The cost of the new street is estimated at £185,000, which would raise the total cost of the markets to £600,000. The Markets Improvements Committee are in negotiations with the Metropolitan Railway Company to reduce the cost of the street to £70,000. Should they succeed the total cost of the markets will stand at £530,000, a figure of sufficient magnitude to justify hesitation, and which we are assured will swell to three-quarters of a million; this we can readily believe with our daily experience of how estimates are exceeded. Fully admitting that the new street may be desirable, it is not proved to be a necessity, and it is not known to the City authorities, who are infinitely more of the requirements of the case than all the members of the House of Commons united, did not feel called upon to include it in his plans. He provided ample approaches and streets on the three sides of the market 60 feet wide, where 2,400 butchers' carts may stand without interfering with the general traffic of the streets. But no, we are not to have the market till the street is not improved, and it is not improved, or, at least, so Parliament in its wisdom reduces things to a complete dead lock.

Taking the figures as given in the report, with the hoped-for reduction in the cost of the new street, the cost of the markets will be £485,000. To pay the interest on this sum, Mr. Bunning, taking the present rental of Newgate-market to go upon, estimated, after deducting 25 per cent. for repairs, management, and collection, the net income from the new markets would be £23,747. A speaker at the last meeting of the Common Council said the income could not exceed this estimate, and might fall to £17,000, on the grounds, we suppose, of an absurd statement which appeared in a former report of the Markets Committee, that increased facilities for the transaction of business by removal would reduce the amount of business transacted. The speaker would pay upwards of 5 per cent. upon the outlay; the lower amount will hardly 3d. suppose always the estimates should not be increased. Should they, however, be augmented, the interest will be proportionately diminished, and will have to be made up from other sources. There is one point on which explicit information is desirable, and that is with regard to the tolls. According to the evidence given before the Committee, they would produce over £10,000. If they are not included in the rental, they would augment the income and go towards a sinking fund for the gradual extinction of the debt. With respect to City finance, we have long ago in these pages expressed our opinion. While conceding to the Corporation the right to recover its outlay, and until that is repaid to receive fair interest upon capital expended, we submit that it would be better to forego the small making profit beyond what is required to recuperate, and that it would be better to charge the whole sum in the shape of rental, instead of dividing it into rental and tolls, which must necessitate a double and needless system of collection, and therefore a twofold expenditure.

In connection with the market between forty and fifty public as well as private slaughter-houses are to be built at Copenhagen-fields on an area of 5 acres 2 rods and 21 perches, or 27,384 superficial feet, with alternate carriage roads and railway sidings between each row of slaughter-houses and to each of which is to be attached a suitable pond, so that while the animals are driven in from the market on one side, the carcasses of their predecessors may be hung up in the railway vans on the other side. It is proposed to wait until there is a demand before erecting these structures at Copenhagen-fields. Should the market be carried out, the appropriation of the locality will contrast with what it was proposed to do with it some time back. Just half a century ago a joint stock company was

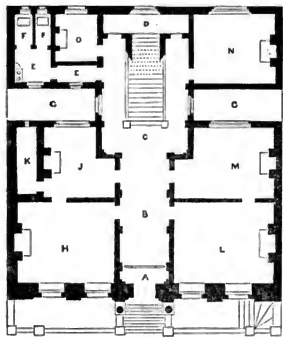
started to convert the fields into a marine bathing place by conveying sea water from the Essex coast to Copenhagen-fields through iron pipes. The capital was fixed at £200,000, and elaborate calculations were published to show that at 2½ per cent. would be the lowest dividend. The project did not take, for, thanks to steam, we go to the sea instead of bringing the sea to us.

The architectural design for the markets was severely handled in the Common Council. One gentleman stigmatised it as "the mean and miserable building," but we apprehend that he would not recommend the Corporation to increase their outlay, and that the project is not likely to be seen, as people do not voluntarily walk among shambles. That the design may be open to the objection of being too low we can readily imagine, for 30 feet in height is too little. The reservoir for air over head will be too contracted, when it is remembered the immense volume of foul stinks that will ascend, and which he is likely to be deflected down again. As a reference was made to the Paris central markets, we may state they have twice the altitude of Mr. Bunning's design, and we may also add that Mr. Vallance's assertions with respect to the Halles Centrales are altogether erroneous. They are not "fancy structures," but are ten huge shells connected by covered ways. They are built after the Crystal Palace style, of iron columns tied together and supporting a light zinc roof. The spaces between the columns on the outside are filled up to about 8 feet above the ground with brickwork, and at top with louver boards. They did not cost "more than £2,000,000," nor anything like it, but the purchase of site for the erection of the markets, the construction of the approaches, and the formation of the Square des Halles have necessitated a large outlay, the amount of which, as we are known, as important work remains to be executed. The tenth shed, or pavilion, as it is called, is included in this year's estimates; next year and after there will have to be executed the completion of the Rue des Halles, the opening of a new street between Rue de la Tonnerrie and Rue St. Denis, the Rue de la Vierge, and the Rue de la Vierge. Then, though the Halles, the system is quite different to what exists here. In Paris butchers buy live cattle at Puits market, which are sent to the *abattoirs* to be slaughtered and dressed and afterwards transferred to their shops. Little dead meat, if any, is supplied from the provinces, and there are no market salesmen. Of late years, and since the butchers' trade has been thrown open by a law passed in 1854, the system of retailing has been changed. Butchers do not buy there, or only those who have stalls for retail dealing in the Halles and various market-places of the capital. In fact, we cannot institute comparison between London and Paris markets, and it would, therefore, be absurd to seek to copy them. Paris markets more closely resemble eastern bazaars than ours do, and are an aggregation of stalls of retail dealers who cannot afford to pay rents for shops, rather than for wholesale transactions, although, of course, they do take place.

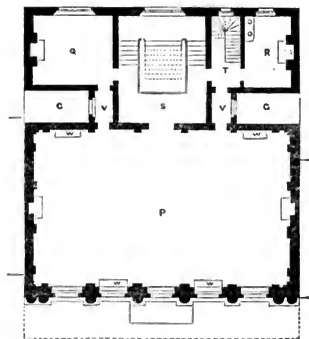
In 1182 Philip Augustus issued an ordinance enjoining Jews to depart from the kingdom of France within three months, confiscating their real property and authorising the sale of their movable effects. This act was the commencement of the persecution of Jews in France, but was cancelled by a law passed in 1198, which was exchanged for a similar law. The Jews expelled took refuge in Lombardy, where they gave to foreign traders and travellers secret letters to parties in France with whom the exiles had deposited what they could save of their property, authorising payments to the holders of the letters. The convenience was found so great that the stratagem devised to elude spoliation under infamous persecution was introduced into commerce as letters of credit. Out of the plunder of the Jews Philip Augustus built, at the instigation of one of his courtiers, two *halles* outside Paris, 1183, at Chamepane, where Louis the Fat had established a fair or market. He bought from the directors of the Leprosy Hospital, St. Lazare, the right to hold a fair that he transferred to these *halles*, which he surrounded with a wall, and into which he kept the Jews close during the winter, and he refused to enter the stalls. He likewise transferred to the new *halles* the market that used to be held in the *crité*, before the Magdalen Church. The Knights Templars about this time established shambles on their property—for these chivalric monks had no scruples when it was a question of making money—but the butchers' guild complained with their usual jealousy of the new *halles*, and the king, who the night before had two stalls not exceeding 11 feet in length each. In 1278 Philip the Bold built a portion of the *halles* against the boundary wall of the graveyard of the Innocents, to accommodate "poor women" and "miserable persons" to sell old clothes, shoes, and leather. In 1416 the first meat market was introduced into the *halles*, when Charles VI. ordered the establishment of four *halles*—one in the Halle de Beauvais, another near the Petit-Châtelet, a third near the Grand Châtelet, and the fourth round the enclosure of St. Germain's graveyard and on a portion of the graveyard of St. Jean. In fact, graveyards seemed to have been favorite sites for markets. Under the first Empire most of the existing markets were constructed, and it was a saying of Napoleon that the Halles should be the *Lower* of the people; but what he meant by that is not very clear.

THE WESTMINSTER BRIDGE APPROACHES.—The block of houses reaching from the Clock-tower of the New Palace, and terminating with Kendall's Hut, facing the river, and the north entrance of the Houses of Parliament, is to be demolished, and it is expected that the whole of them will have been removed by the meeting of Parliament. The whole space between Westminster Hall and the north side of Bridge-street will thus be opened, and from Westminster-bridge a splendid view of the Houses of Parliament, the Abbey, and adjacent buildings will be obtained.

## NEW VESTRY HALL, ST. GEORGE'S-IN-THE-EAST.



GROUND PLAN



FIRST FLOOR PLAN

## REFERENCES TO PLANS.

A. Lobby.  
B. Vestibule.  
C. Principal staircase.  
D. Lobby and stairs to Basement.  
E. E. Passage and Lavatory.

F. F. Water-closet.  
G. Open courts.  
H. Vestry clerk's Public office.  
J. Private office.  
K. Strong room.  
L. Surveyor's Public office.

M. Surveyor's Private office.  
N. Medical Inspector's office.  
O. Inspector's office.  
P. Principal hall and Board-room.  
Q. Committee-room.

R. Cloak-room and Lavatory.  
S. Principal landing.  
T. Stairs to gallery in hall, &c.  
U. U. Private passages.  
V. Cists of hot water pipes.

This new hall, the foundation-stone of which was laid on the 16th July, 1860, was formally opened in August last. It is situated in the Back-road, being erected on a plot of land formerly belonging to the Trustees of the Wesleyan Centenary Chapel, and overlook at the back the burial-ground of St. George-in-the-East, and the London Docks.

The building occupies a site of about 57 feet by 60 feet, and consists of three floors. On the basement-floor (which is partly above ground, and access to which is gained by a flight of stone steps in the area) is accommodation for the residence of the hall-keeper, consisting of parlor, kitchen, scullery, coal place, pantry, cellars, strong-room, boiler-room for the hot-water apparatus, &c. The ceiling under the principal stairs and entrance-hall is formed with brick arches, plastered, springing from cast-iron girder, the bannexes being filled in solid with concrete to carry the Portland stone floor above. The staircase, hall, and cellars, are paved with York stone, the stairs being of the same material.

On the ground floor are an entrance-hall and vestibule, spacious stone staircase to the principal floor, vestry clerk's offices (with fireproof room), surveyor's offices, and offices for the Medical Officer of Health, Inspector of Nuisances, &c. This floor is supplied with water-closets, urinal, and lavatory, the whole being well lighted and ventilated.

On the principal floor is a large hall 54 feet 6 inches by 33 feet, the whole height being 24 feet. A gallery with two tiers of seats runs the whole length of the hall at the back, and is approached by a distinct stone staircase, access to which is gained from the principal landing. On each side of the principal doorway to the hall, are the smaller ones, leading to the committee and cloak-rooms. Over these are three bed-rooms for the hall-keeper. The cloak-room is fitted up with a lavatory, &c.

Provision is made throughout for heating and ventilating. The latter is effected in the large room by two shafts running from the ceiling into above the roof, securing two separate currents of air. The whole of the rooms have open fireplaces. The hall staircase and entrance hall are heated by hot water.

The decorations of the entrance-hall consist of Doric pilasters and entablature supporting a paneled, coffered, and moulded ceiling—the same arrangement being carried through to the staircase, the landing over having a coffered ceiling in one panel, with a bold enriched flower in the centre. The mural decorations in the large hall consist of moulded panels between Roman Ionic Pilasters, the caps of which have wreaths of foliage suspended from the horns of the volutes. The pilasters have a base and pedestal, the mouldings of which are continued round the room, the dado being paneled in wainscot. The ceiling, coffered and paneled, springs from a deep cove; the centre panel has an enriched marginal moulding, with scroll centres and corners. The panels flanking it are formed of perforated ironwork, the foliage pattern of which is well executed, with central rings which receive the sun-lights by which the hall is illuminated, and which materially assist the ventilation of the building.

The general features of the front are Italian in character. The front elevation, of Portland stone, shows three stories, the two lower of which are rusticated. The principal feature of the ground floor elevation is the porch, which is formed of Doric columns and rusticated pilasters, carrying an entablature with triglyphs, &c. The doorway is deeply recessed with moulded jambs and architraves, and

has a circular head, the tympanum of which is filled in with elaborated wrought iron-work. The spandrels are to be occupied by medallions. At the foot of the steps leading to the porch are two sub-panels to receive an ornamental cast-iron balustrading and bronze lamp standards.

The upper and principal floor is divided externally into five bays by massive Ionic columns, being coupled at the angles; the entablature is surmounted by double blocking course, broken over each column and finished with a ball. The jambs of the windows are formed with pilasters with foliated capitals, carrying an enriched entablature with cushioned frieze. The window heads are circular with archivolts and keystones, the tympanum being filled in with sculpture. The panels beneath the windows are filled in with moulded balusters, the pedestal, moulds, &c., of the columns being continued across the facade.

The whole of the works have been executed by Mr. Thomas Ennor, by contract at £4,675, under the superintendence of the architect, Mr. Andrew Wilson.

## THE NEW MIDDLE TEMPLE LIBRARY.

THREE or four months ago the Prince of Wales publicly opened the new Library which Mr. Abraham has designed and Mr. Myers has built for the Honorable Society of the Middle Temple. In our Volume for 1860, at pages 530 and 547, we gave full descriptions of the work; and at page 139 of the Volume just completed we engraved a view of the river-front—then misnamed the "Inner" Temple Library. We now publish a view from the north-east, showing the principal entrance.

The main apartment is 85 feet long by 42 feet broad, and occupies the whole of the principal story. Its sides are lined with bookcases, and in the windows over them blaze the arms of the various Treasurers. All the work is executed in the best manner; the metal work is by Hart; the glass is by Ward, of Soho. The stone carving of Mr. Myers needs no word of praise; it is well known, and its excellent quality is universally acknowledged. The building is altogether, perhaps, the best specimen of modern Gothic work to be seen in a civil building in all London.

VALUE OF REVERSIONARY PROPERTY.—A reversionary life interest was offered for sale at the Auction Mart, by Messrs. Chinnock and Galsworthy, comprising the Frampton estates in Dorset, extending over nearly 8,000 acres, with a rental of about £10,000 per annum, together with a present life interest of the reversioner, aged 23, in £400 per annum, and £1,000 per annum on the decease of a life aged 47, secured upon the above estates, the gross rental of which does not fall to the reversioner until the decease of the life 47, and another aged 52; the contingency of the young life surviving the two elder had consequently to be insured. The reversion was sold subject to a mortgage of £5,000, and the price realised was £11,150.

## A FEW SUGGESTIONS FOR 1862.

THE assertion is constantly made that it is the fashion with Englishmen to "run down" their country. To do this without cause would be senseless, as well as antipathetic; but it often happens that there are real grounds for fault-finding, which may, and frequently does, imply a readiness to examine and amend. The Englishman of many years naturally regards himself: his family, his neighbourhood, and his town or province are apt to be in his eyes the most important objects in the whole world. Though this parhous affection may be pushed to absurd lengths, it has its favorable side, for from the seeds of self-love and local interest are thrown out the strong and deep roots of patriotism, which are the basis of a well-organised as well as a petty and narrow, but they need fear no comparison on the score of practical usefulness with those larger souls which range over the universe, and, finding no resting-place for their sympathies, return empty.

Grumbling, so that it be not done in a merely capacious, querulous frame of mind, but with an honest desire for progressive improvement, is a good symptom in the history of a country. It is our bounden duty, from time to time, our position, and, instead of blindly maintaining that whatever is done by us is and must be right, to see in what we fall short—not of the state of other nations, but of the standard capable of attainment in a civilised community. In a survey of our national condition we must admit that we are generally found unprepared, be the occasion great or small, and might speak of our country as "England the unready." A very brief review of our late history would show this to be true; and even now, in the critical posture of our relations with the Northern States, it is certain that we are ready with men as well as with ships? Official statements would make it appear that we are. Let us devoutly hope so, and may the fervent prayers of all well-wishers to our country be directed towards the black cloud which impends over us may yet burst without the thunder of war and the hailstorm of injury to our accumulated savings—our wealth and prosperity. In the face of the great and tremendous interests at stake, it may seem trifling to descend to civic minutiae; but, be the event as it may, the daily life of England will go on much the same, and there will be time and opportunity to attend to matters of a purely social and domestic character. We propose briefly to consider what preparations can be made for the vast influx of persons whose presence in London we may reasonably expect in the coming year, and to offer any suggestions which may occur to us.

It has been observed how much the population has changed in the ten years which have passed since the former Exhibition. The children of that period are men and women now, and there has absolutely arisen a new generation. From the great increase in the mere numbers of the people, aided by the facilities of travelling afforded by the opening of many miles of railway, we may look for a great crowd of visitors. The population which we already have is a crowd, and the increasing population may be pressed beyond its limits, and we should do all that is possible to allow of their expansion. Doubtless the eyes of lodging-house keepers have been dazzled already with visions of crowded houses and high charges, accompanied by those pickings (not stealings) so familiar to those who have fallen into the snare of the harpies of the franchise. It has always been a subject of wonder to us how the London population has the audacity to charge, and others could be guilty of the incredible folly of paying, for very inferior lodgings, the exorbitant sums which are evidently quite the usual thing in "good" neighbourhoods. Despite the lash of the satirist, there is still a hankering after "Mew-street, Grosvenor-square." Season after season the same dusty, grimy wet smother the mists of fashion; and families, rather than pass out of a charmed circle, are content to inhale a stifling atmosphere, in small, inconvenient rooms, enumbered with old and heavy, or decked with modern and tawdry furniture.

Others, however, imagine that they have no choice, and submit to discomforts in their ignorance of whither else to go. Here is a want that might be supplied. The more reputable and fair-dealing of lodging-house keepers should endeavour to meet the tactics of their sly and loud-mouthed opponents, and adopt some method of making more generally known what accommodation is to be had, and at what rates. At the same time householders generally should guard against real or pretended errors committed by them in 1851, who, reasoning probably from their own experience of "seasons" in watering places, thought that, by exhibiting in their windows cards, notifying that "apartments" were to be had, they would have numerous applications, whereas many well-deserving persons, who could have been greatly benefited by the use of the Strand, could not let their rooms at all. We should dissuade private individuals from undertaking to let apartments, if only for the simple reason that lodging-letting is a business, and one by no means easily learnt. There are real trials to be undergone, arising from the caprice of some who want in lodgings more attendance than they are in the habit of serving out of their servants at their own homes, and from the mischief of those who are utterly reckless in the use of other people's property. So that there is some allowance to be made for the hard bargained driving and vulgar insolence of the drabby Mother Pecksnobs.

London is so vast that anything like a search for apartments is impossible. Well known streets, and the river side of the Strand, are usually in a state of plethora, while other districts are comparatively unattended. Few persons, acquainted with the locality, would select the Strand for a residence, except for its business situation; and it seems to present few attractions to a visitor on a trip of pleasure. The incessant thronged traffic, almost incessant, for there are only about two hours in the early morning of comparative quiet—by no means a pleasant point of the quarter as one of the most eligible in London, apart from the consideration

of its proximity to the Thames, which, under the influence of the summer sun, emits an odour more pungent than agreeable. It is from the extortionable rents—in proportion to the accommodation given—of the west-end houses, with their miscellaneous and expensive plate, linen, attendance, &c., on the one hand, and the distracting din of streets never crossed thoroughfares on the other; that many of our country visitors form their opinion, and go back to their homes heartily sick of London. Surely, dirty and dear as town is, we might have something better to offer than is usually found.

Take again the hotels. If a friend asks one to recommend an hotel, what which can be given? A very unsatisfactory one, for almost all those that are good for anything obtain high prices, and are suited only to wealthy birds of passage. More hotels on a better system would be a real boon—say, for a known example as the Pavilion, at Folkestone, with two *téte à tête* dinners, one early and the other late, per, at moderate charges, and with a variety of dishes. The whole question of hotels has been so recently broached before the public that we cannot have nothing new to say, but we may endorse the statement that hotel keepers should give a tariff of prices, including attendance, so that an inmate may really know the end of his expenses. Something has certainly been done in this direction; but the majority of landlords in town and country seem not to think it their interest to be too candid as to their charges, and the result is what one would naturally expect, that any one who is obliged to travel contrives to manage his journey so as to have as little staying at hotels as possible. Something might be said also about choice of food. Who is not tired of hearing in reply to one's inquiry, "What have you in the house?" "We've some very nice corn beef, Sir; or we can get you a nice chop for a shilling." This is the case with the hotels, and the result is the small towns, which had better bow to their fate, turn their four or five hotels into museums, libraries, or reading-rooms, and leave one or two proprietors, who could give all the accommodation that is ever likely to be required. The railways have sounded the knell of hotel keeping in small places, where the ordinary visited only by a commercial traveller or so, who hurries away as soon as his business is completed. The bagman's trap even is become a rarity since railroads intersect the country in every district in which there is any trade to be done.

What shall we say to the omnibuses? The magnificent promises made by the Great Monopoliast Company have been but ill-fulfilled. Some new omnibuses have been placed on some roads, but only by pressure of competition, and with a view to carrying on the public business, and not a really convenient vehicle. We have not forgotten that, with the opening of the former Exhibition, began an increased scale of fares. Then we had the *fourpence*, which is still kept up for intermediate distances. The fares want a thorough re-arrangement on some more intelligible plan than is in use at present; so that every one may know what it is to pay. It is all very well to say, "If you have any doubt, you should read the list of fares inside the door." Any hesitation would call forth the inevitable—"Now then, Sir; if you please, Sir; when you are quite ready, Sir." Moreover, this list is made specially bewildering, and designed, as it would seem, to catch expenses instead of the lower rates. One passenger may pay sixpence for a distance which another, at another time, may pay only fourpence. We might certainly take a hint from our neighbours, and have the word "Full" put up when there is no room inside, and thus obviate the unpleasantness on a wet evening of a dive into the mud—and such mud!—only to find that there is a pleasant seat in front, where, as the conductor suggests, "You can have the apron up."

Although the cars are much improved since they have been more completely under the control of the Commissioners of Police, there still remain many wretched four-wheelers, drawn by animals which are skin and bone, and whose legs are knocked to pieces by hard work over "the stones." The remedy lies mainly in the hands of the public, who need not hire dirty, ill-appointed cars. In all ages there has been something in the handling of the rickshaw, or the rickshaw, or the rickshaw, which has made it a favorite object for public attention. With a regulated scale of payment, and accurately measured distances, there ought to be no overcharge. This is fostered, if not created, by persons who think it mean to pay only the proper fare, although it would be well for them to remember that the extra shilling or sixpence, which is nothing to them, is really a considerable tax on the earnings of the poor.

The taking of cab-tickets seems almost entirely to have ceased. It is certain, at least, that a driver never voluntarily offers one to his fare; and yet this delivery forms a valuable method of identification. It would be a curious branch of statistics to learn the number of small articles, such as umbrellas, parasols, opera glasses, &c., that are weekly left in cabs and lost altogether. It seldom pays to advertise them, and give a reward on their being brought back, because the ticket at once ensures their repossession. If the ticket has fallen into disuse, its revival would seem very desirable, and might be attempted by those who are not above taking a little thought for public benefit.

Needless perplexity is caused by the repetition of numbers in some streets. Notably, there is Oxford-street. 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and St. John's-wood;" Edgware-road, "leading to Malda- and Kilburn."

Few persons who have been abroad have not at some time or other found out the usefulness of a *salet-de-place*. He knows the principal objects of interest in a town, and the hours of the day at which they are to be seen. He hires a cab, or conducts you on foot, according as you wish to get through sight-seeing quickly or not. Here would be an opportunity of employing such persons as the Commissioners who may be of good character, civil, and intelligent.—The rate of payment four or five shillings per day.

For those who prefer to find their way by themselves there should be a *dia book*, similar to the "Practical Paris Guide," which shows you how "to see all that ought to be seen in the shortest period, and at the least expense." A skeleton description of public buildings should alone be given, furnishing an idea of the salient features, with minute particulars of charges of admission. (For instance, a statement of the amount paid for different parts of the house at the theatres, and the hours of full and half price would be found useful; for this is the kind of information difficult to get at the moment when it is wanted, and least likely to be forthcoming from any one at hand. The more remarkable churches, including the most recent, should have a brief notice. Few, even in the architectural profession, are acquainted with the Gothic and antiquarian remains in the City; and there is a general ignorance as to the burial-places and monuments of celebrated persons, except those in the Abbey and St. Paul's. If the compiler would seize the points which his own experience has suggested as "practically" necessary, and endeavour to supply the wants which he himself has felt, he would do much to assist the tourist. Some attempt might be made to unravel the mystery of distances, and to give them within main points, of which a chief one would, necessarily, be the Exhibition. It remains to be seen what arrangements will be made for dinners at the Building; but, as strangers will visit other parts of London, something might be said about "where to dine." Under this head, we were that there will be little to praise, or commend for its size, London is most indifferently supplied with dining-rooms—not, indeed, as to number, but as to quality. With a few honourable exceptions, which might almost be told off on the fingers, they are squid and close—places wherein "to feed and not to dine." In the majority of them, it would be anything but appetizing to inquire how it happens that joints are kept so constantly roasting.

We may have another opportunity of considering more fully one, or more, of the topics here hastily run over, and content ourselves for the present with having touched upon some matters which are not unworthy of attention, inasmuch as they tend, in proportion as they are observed or neglected, to exalt or to depress the character of the capital, and to bring within reach of ourselves, as well as of those who may be induced to visit London.

#### DOINGS IN NEW SOUTH WALES.

In *Sydney* and its environs several large buildings, both for public institutions and for commercial purposes, are in course of erection. The labor market has been for some time favorable for building operations, but contractors are now unwilling to engage in large works, owing to the rush to the New Zealand gold-fields being likely to cause a scarcity and a consequent rise in the labor market. One of the largest buildings in progress in Sydney is the New Roman Catholic College, to the University enclosure. The foundations are all in, and a portion of the wall is up to the second story. The building was designed by Mr. Wardell, the present Colonial Architect in Melbourne, and the work is being carried out under Mr. Blackett. An extensive building has been commenced—the Destitute Children's Asylum at Handwick. A new wing, 175 feet by 45 feet, and three stories in height, and also a continuation of the front of the building, are being built. The cost of the additions will be about £20,000. The brick work of the Sailors' Home, in Lower George-street, is completed, and the roof is being put on. There is an aspect of incompleteness about the building, owing to a portion only of the design being at present proceeded with. The works now in progress will probably be completed in the course of the next month. The new wing of the Australian Museum from the end of the present building to the boundary of the land adjoining the Grammar School is to be proceeded with. The new wing will be 200 feet in length by 40 feet in width.

At *Hobart Town*, amongst city improvements which are rapidly progressing, is the new Museum of the Royal Society, which is being built in Macquarie-street, after designs by Mr. Henry Hunter; while on a site immediately adjoining the Museum the new Town Hall will be built; designs have already been called for and the additions will be about £20,000. The brick work of the proposed monument to Sir J. Franklin, for which Parliament has voted £10,000. The new Survey Office is in progress, and the new Post Office, adjoining the Supreme Court buildings, is approaching completion.

At *Nelson* there are rapidly rising city improvements which are rapidly progressing, is the new Museum of the Royal Society, which is being built in Macquarie-street, after designs by Mr. Henry Hunter; while on a site immediately adjoining the Museum the new Town Hall will be built; designs have already been called for and the additions will be about £20,000. The brick work of the proposed monument to Sir J. Franklin, for which Parliament has voted £10,000. The new Survey Office is in progress, and the new Post Office, adjoining the Supreme Court buildings, is approaching completion.

The decennial return of the expenditure of the Victorian Government in connection with public works and improvements shows that the total sum expended during the years 1851 to 1860 amounted to £1,339,000, of which sum £1,741,473 was provided from the revenue, and £276,527 was paid from loans raised for the construction of reproductive public works. The total sum expended during the past five years has been £385,704, against £145,921 in the previous similar period. Telegraphic communication, it is

stated, is now established with all the principal cities and towns in the neighbouring colonies of New South Wales and Victoria in connexion with lines telegraphic and other facilities at this province. At the close of 1860 twenty-six stations, 220 miles of line, and 6500 miles of wire were opened. The revenue of this department is rapidly increasing, whilst the facilities and conveniences it creates are largely being availed of.

To the foregoing we may add the following from the *Engineer*—"of Assembly. The amount required to defray the estimated expenses of the Government of New South Wales in 1862 is £3,350,000, against £3,040,000. The increase in the amount required this year is, therefore, £3,027,778, the augmentation being in great part owing to the railway scheme and other public works in the colony. The estimate of Mr. Peck, which amounts to a sum not less than £1,007,184, proposed to be raised by the works and railway loan is to be expended in the following manner:—Valuation of land, railway works in progress, and proposed extensions, £1,707,134; the maintenance of the railway, £1,000,000; the construction of bridges, £100,000; public works and other improvements, £500,000; Improvements of harbors and river navigations, £28,000. In the estimates for the maintenance and construction of main roads in the colony, the amount of £50 per mile has been put down, together with sums for bridges, culverts, and other special works, which amount altogether to another £20 per mile."

A new and substantial bridge at Camden, christened the "Cowper Bridge," was completed and open for traffic in the summer. The bridge at Fallbrook, on the Northern road, opened last year, has been maliciously destroyed by a gruntpower explosion. The work is being renewed by the Government. A lighthouse at Port Stephens, which is in progress under the Colonial Architect, has been advancing very slowly. The cause of the delay has been the unfavorable state of the weather. The lighthouse is to be 60 feet in height; at present the building is up only about 35 feet, and the work will not be finished before the end of the year. The lighthouse at Eden is nearly finished. The formation of the new harbour at Wollongong is proceeding rapidly, under the engineer for harbors. None of the tenders being considered available, Mr. Gibbons, who recently carried out some of the railway contracts, was appointed to superintend the formation of 9,000 yards of stone had been excavated in October, and the work would shortly be ready for commencing the new basin. Preparations have also been made for commencing the harbor works at Kiama, which will likewise be carried out under Mr. Gibbons. Temporary sheds and buildings for the accommodation of the workmen have been put up, previous to starting with the excavations.

The Minister for Works lately stated in the Assembly, in justification of the course taken by the Government in declining to give contracts where the works could be more advantageously carried out under their own officers, that while the estimates for the harbor works at Kiama were £1,000,000, the Government had offered £115,000, and that subsequently an offer had been made by Mr. Gibbons to carry out the work for the estimate. The works for the improvement of the Moruya river, which were contracted for by Messrs. White and Co., have been commenced. The progress of the work in progress at the Clarence River, to the westward of the public wharf, which already is about 1,300 feet in length, and which will, upon the completion of the contracts now taken, extend for 1,740 feet. As a preliminary step to the formation of the breakwater from the north-easterly direction, the work is being contracted for by the Government, and will be deposited to be conveyed upon a temporary railway to the breakwater. The sum of £5,000 has been voted for the work, and another sum of the same amount is placed on the estimates for the year. Tenders are about immediately to be invited for tenders for improving the harbor works at the Clarence River. The total cost of the works is estimated at £117,207, but at present only £20,000 has been voted by the Assembly. This sum is about to be expended in the construction of a breakwater, 1,000 feet in length, to run from the south head in a north-easterly direction. The stone will be obtained from a sandstone quarry at a short distance from the head, and will be conveyed along a temporary railway. A neighborhood will be provided by the Government, and the contractor will be paid according to the amount of ballast deposited. A timber staging will be run out for the required distance and rails laid upon it. Ultimately the length of the breakwater is to be 2,000 feet, and another breakwater is to be run out from the north head. A suggestion was made that a penal establishment should be formed at the Clarence River, as that it would be carried on by convicts. It has, however, been determined by the Government to employ free labor. Surveys have been made by the engineer for harbors of the Richmond and Macleay rivers, with a view to carrying out similar improvements.

CHURCH ARCHITECTURE.—The Rev. J. S. Hodgson, before concluding a recent lecture at Chester, remarked upon the glaring absurdity of some modern churches having been built in the Medieval style, with galleries so erected in aisles that the occupants could not hear the preacher's voice—blindly adopting the styles of ancient architects and architects and spending them by availing themselves to accommodate them to modern requirements. It must, however, be remembered that a church might be built in the purest style of Gothic architecture, without a scrap of Roman furniture about it. The chapter-house of a cathedral, in the purest style of architecture, might be most handsomely furnished with modern furniture, might be as pure a specimen of Painted architecture as the cathedral itself, and if modern architects would study such genus of art, and consider that they had to build churches in which the congregation might join in the prayers which the chapter services utter, and he (the preacher) exhorted, and persuaded, and exhorted, we might expect edifices to be erected fitted for the use in which we live. A Protestant congregation would not see around them miserable imitations of superstitious contrivances, but meet for the worship of God in buildings of the purest style, and be satisfied. The same might be said of the Jews, offensive to the most sensitive disciple; the edifices would bear upon them the marks of unity of purpose and simplicity of design, and thus show that they were erected by men who understood the principles of their art, and were not blind imitations of a few styles of architecture.

NEW LIGHTHOUSE FOR THE WELSH COAST.—At a recent meeting the Mersey Dock Board decided to lease a site, on the great Ormeshead, for a new lighthouse. The cost of the edifice will be £5,000, and the annual charge for maintenance £380. Mr. J. B. Hartley, C.E., has presented a design for the lighthouse.



on earth where you may go about under less fear of restriction while you are careful to avoid interference with the service of the church or any other cause of offence. The ecclesiastics seemed to take a pleasure in giving such information as they could, and were very regular in their attendance, for that purpose his fee was small. There seemed to be an objection to one's going anywhere for the purpose of sketching. I was now and then invited into private gardens for the sake of getting a better position. Ordinary passers-by generally apologise if they are compelled to obstruct the view, or school boys feel any delicacy about looking over the drawing or attempting to read the notes, but it was done civilly, and I think was intended as a compliment.

## SOCIETY FOR THE ENCOURAGEMENT OF THE FINE ARTS.

DR. DRESSER ON THE ART OF DECORATIVE DESIGN.

THE second lecture by Dr. Christopher Dresser, of Hammer-smith, on the "Art of Decorative Design," was delivered before the Society for the Encouragement of the Fine Arts, on Thursday evening, the twelfth ult. There was a numerous attendance, and the chair was occupied by Mr. HURLSTONE. After referring to grades in decorative art, and in illustration of his subject, the Lecturer said:—

I suppose that the object which we have in teaching writing in our schools is that of enabling mind to communicate with mind, and spirit with spirit, when the bodies in which they dwell are somewhat widely separated by space or time; the secondary aim being to increase the view of school boys of the world, and a more careful mode of thought, which writing induces—may also lead to infuse this task of learning to make and arrange characters on paper upon our children; but the primary object is that of enabling them to pass their thoughts through space, and hand them down through time in order to instruct, or gratify, or delight kindred spirits. But the power to write is only of value as it enables us to embody thought in form in such a manner that others may reap from the forms the conceptions of the mind which created them.

In itself the letter is useless, for no collection of indiscriminately arranged words, I conclude, would be of value; but as thought can be conveyed by this agency, the work cannot be overestimated.

The works of Shakespeare, Macaulay, and Bacon we greatly value, but they rather command our sympathies nor approbation because they are combinations of characters arrayed in meritorious order according to rule, but through the excellency of the mind which they make known, for, while reading these works, we recognize the minds of the authors conversing with our minds as fully as if the very men were standing before us in person, and speaking in audible sounds.

It is so with drawing, for this is only a vehicle for thought—a means to an end; and I know not that the art is worth the expenditure of labor necessary to its possession, but for this one power which it has. Writing may be said to be a plain chariot, in which the mind is conveyed from individual to individual throughout a kingdom, and sometimes beyond; and decorative art, an ornamented car in which mind is conveyed throughout the world. One feature of special interest as appertaining to drawing is this, that the language which it speaks is universal, and adds to the inhibition of every hand. Then, though however desirable it may be to possess the power of delineating objects for secondary purposes, the great value of such ability rests in the increased means afforded for the conveyance of thought. Seeing that we value the power of drawing merely as a means to an end, and recognize the truth already enforced—that the amount of pleasure derivable from an object is in ratio to the amount of mind which it manifests, it will not be difficult for us to determine the merits of the varied classes of decorative art.

Mere imitation is not ornamentation, and is no more art in the higher sense of the term than writing is in itself literature, for in order to the production of ornament there must, at least, be adaptation.

Our so-called natural wall papers will illustrate the first, or most elementary, step taken towards the production of ornament, for adaptation has here been considered so far as it is absolutely necessary in order that the design may repeat in the mechanical manner necessary to its production, but no further. Here, the effort has been to imitate what is seen, and not to adapt natural forms to the purposes of decoration; the little adaptation essential is rather mourned over than joyed in, and it is not to be wondered at that the result is so inferior.

If mere imitation is ornamentation, the ornamental mind at once give place to the photographer, for his art repeats natural objects with infinitely more accuracy than the most careful draughtsman; but photography cannot invent ornaments, it is devoid of mind, and is therefore incapable, for the working of the mental power is essential to the production of decoration, and, indeed, to the creation of all exalted art.

We have no reason to believe that when the old Greeks were about to produce one of their imitations, they searched the land for the most perfect human form, and simply imitated what they saw; if so, they would have made cast of the figure; but their statues are not casts; they are types of the human shape, and unquestionably resulted from a consideration of the form of many individuals. I imagine that prior to the production of one of these statues, an enquiry was made as to the perfect form of the human body, and investigation might be long continued, and require the observation of the forms of many; and after the mind had produced to itself, in the form of a mental conception, a perfect type worked out in all its details, an enquiry was further instituted into the matter, and they understood that the perfect form of the figure was brought to that required. After such preparation the production of a figure perfect in form was comparatively easy; the difficulty rested in forming correctly the mental image, and in order to this the great knowledge was required. What was required was not the knowledge of the human body, but the mechanical skill or labor in its construction (Indeed, no thought of labor is intruded upon the mind when beholding it), but the knowledge manifested by it, and we view it with delight as the embodiment in matter of a conception of the mind.

We see that perfect works of art are not imitations of that which actually exists, but are mind embodied in form, and this is emphatically the case with ornament, for that which is most pleasing and meritorious is that which has most mental or artistic, while that which sets forth things seen is of a less satisfactory character.

Natural adaptations, we have seen, are the lowest form of decorative orna-

mentation, but the next step, which is much more exalted, consists in the "conventional treatment" of the natural form.

Vegetable life, which is the type of form of ornament, treated conventionally, will not be found to be far removed from truth, but will be merely a natural form, or a series of combined forms, neither marred by blights nor disturbed by winds, adapted to the fulfilment of a special purpose, or suited to a particular position, for the most perfect examples of what is usually termed "conventionalised nature" are those which express the laws of growth, and the growth itself, or are manifestations of natural objects, as undisturbed by surrounding influences and unmarred by casualties.

In attempting the production of the ideal of nature, the almost care must be used not to distort between truth and deformity, the beauty of a plant cannot be said to be repeated in a drawing. If deformity alone is portrayed; indeed, deformity must altogether absent from a perfect work, for art has a more exalted mission than that of setting forth what we see in nature.

Flowing elegantly to the ground, it is better to be a leaf, a feature or a disfigured limb perpetuated by statuesque work of art, and although deformity in plants may not be so manifest, and hence not so offensive, as deformity in man, yet its presence detracts from beauty, even if the source of the evil be unperceived.

Conventionalised nature, we say, will be found to consist in the delineation of nature in its purest or typical form; hence it is not imitation, but consists in the embodiment in form of a mental idea of the perfect plant; but this ideal figure is subjected to a process of adaptation.

The intention of the plant in producing the bud of the honeysuckle is that of developing leaves of certain shapes in a given arrangement while they are yet varied in direction; but should a leaf be partially destroyed through blight or some insect preying upon it, it will be necessary to perfect it; and should the leaf be so injured that it is unable to receive a sufficient amount of light, it will be necessary to enlarge it, or, should any part be drawn aside from its proper position, it must again be restored to its place. And in thus deducing from many examples the laws and forms of nature, and producing a truly typical shape, rests the chief secret of the production of the conventionalised plant.

Still following an ascending series, we find the next grade of decorative art in the embodying in form a mental idea which has been suggested by nature, and yet the ornamental forms are neither a representation of any actually existing form, nor of any intention of nature.

The illustration already given of the manner in which a mental conception can be embodied in a new form, as that of an opening bud or of a flower, will likewise tend to elucidate our present meaning; and it will be unnecessary that it should be repeated. It is essential that the object which is imitated be a natural object and yet not imitate the object the spirit of which it embodies, for we have before seen that this is possible.

It is apparent that the latter class of ornament is a greater development of the mind than the former, and those who have considered the laws of the "natural treatment" there is the smallest possible amount of mental power embodied, and although in conventionalised nature there is much more, yet there is considerably less, than in the embodiment of a mere feature in ideal form.

Purely ideal ornament is that which is most exalted, it being wholly a creation of the soul; it is utterly an embodiment of mind in form, or an offspring of the inner man, and its origin and nature give to it its elevated character.

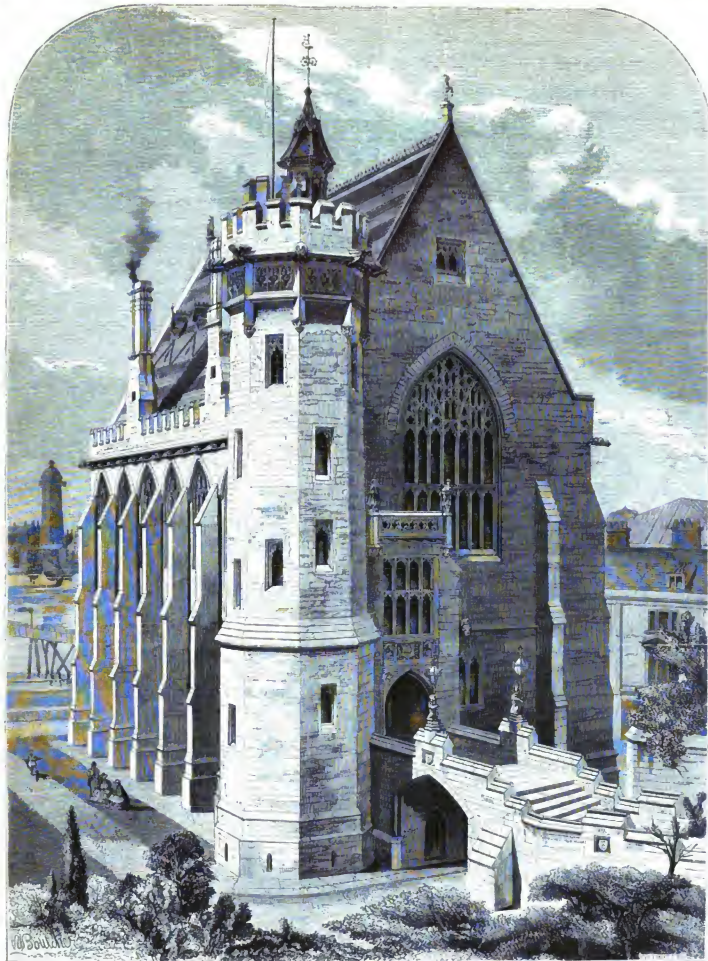
It would be a folly now to enforce the statement that conventional ornament is the least meritorious, and that the least meritorious is the least valuable; ornament is in ratio to the amount of mind manifested in its creation, and the most careful consideration will verify this truth; for ideal creations are as far above imitations as the mind is above the body—many brutes can imitate, but they cannot create.

We are now enabled to classify ornaments by affinities resulting from equality in respect to the embodiment of mental power. Thus we have examples of the first, or most exalted, grade of ornament, the Greek, the Moorish, the Early English, much of the Indian, many features in the Japanese, and some parts of the Egyptian and Renaissance. In the second class, following a descending series, we may instance much of the Egyptian and Chinese, and a few features in the Greek and Japanese. In the third a great portion of the middle-age work, especially the later Gothic, and many parts of the Chinese or Indian; and in the fourth or last class, much of Pompeian and our modern floor patterns.

While we have thus instanced a few examples which seem, on the whole, illustrations of the grades to which we have called attention, yet in several cases the same features are repeated, and the same laws are followed, and the same floral patterns, while they belong to the fourth or lowest class in view of their composition, belong also to the first or second class in view of their coloring, for it is in some parts purely ideal, and in others nearly suggested by natural objects. The fourth or last class, much of Pompeian and our modern floor patterns would be much coarser than they are.

While there are these grades of ornament, it must also be remembered that there can be good and bad in each class, for if a purely mental creation has not the laws of nature or requirements of the human mind, and is not adapted to its point out, it cannot be satisfying, and the pain resulting from beholding an imperfect ornament will be in ratio to the class to which it belongs, and will be greater as the class is exalted. Purely ideal art, when degraded, is most offensive, as it is the weaker part of man's delicate mind, as to be contemptible.

The lecturer then referred to plants as furnishes of ornament, and pointed out the manner in which a plant grows. Every plant at first consisted of but one body, a cell, and however long that plant might grow, and to whatever extent it might be developed, it was but a multiplication or repetition of what it first appeared. He then referred at length to the horse chestnut, showing how the growth of the plant had been retarded by the growth of the trunk, and how a short branch with leaves springing from it, but those leaves were modified in color and character to perform the particular work which they were destined to fulfil. We saw that plants had repetitions, and so it was in fine art, as might be seen in the kaleidoscope, where the effect of the production of repetition, according to rule. Repetition was essential to the production of ornament. He then referred to diagrams of the *begonia* and *petunia*, showing how they repeated their parts. After referring to the repetitions in *magnolia*, the lecturer remarked that the execution of the repetitions of ornament, and the repetition of object answered by this alternation was calling attention away from the junction



THE NEW MIDDLE TEMPLE LIBRARY.

of lines. Passing over symmetry, Dr. Dresser proceeded to the consideration of adaptation. There was a perfect adaptation of the flora to the earth on which it was rooted. Adaptation in nature might be shown in almost every flower. In the choice of color decoration it was all-important to consider adaptation as a primary feature. On this point he referred to the forms of the *Asplenium* and the *Polypodium* and to the forms of the leaves of the two kinds of a pleasing feature and to possess it; we had to decorate and beautify, but we had to take hold of a pleasing feature and to beautify that. The lecturer passed on to speak of the power of ornament to express ideas with the aid of symbolism, and to argue of the possibility of embodying thought in abstract ornaments, in conventional forms, and in the forms of nature. All the ornaments and to do was to make the mind grasp a certain thing.

The lecturer on resuming his seat was warmly applauded by the meeting.

The CHAIRMAN (Mr. F. Y. Hurlstone) moved a vote of thanks to Dr. Dresser for his excellent and elaborate lectures, in which he had entered into details of great interest in regard to decorative art. The motion was seconded and carried by acclamation.

The meeting then broke up.

## THE GEOLOGY OF THE ISLE OF PORTLAND.\*

WE are glad to see that Mr. William Gray has had reprinted his interesting paper on "The Geology of the Isle of Portland;" a considerable portion of the information given is of great value. It is shown that—

The series of strata, though not everywhere exhibited together, yet when grouped as a whole afford a vertical section of about 525 feet; hard rocks of a light color giving about 145 feet; dark brown sandy deposits about 45; and the Kimmeridge clay formation the remaining 335. The strata, which to the east and west present bold fronts to the sea, have been much affected by landline.

The sections of the various strata are shown in a woodcut, beginning at the top they are—

Sand and gravel of the Rained Beach.  
 Calcareous slate, 6 to 30 feet thick.  
 Clay band.  
 Bacon tier, 1 to 1½ feet.  
 Clay band, 8 feet.  
 Ash, 3 feet.  
 Soft loess, 1 foot to 14 inches.  
 Dirt bed, 1 foot to 16 inches.  
 Top rising, 2 feet.  
 Cap, 4 to 5 feet.  
 Seam of black earth.  
 Skull cap, 20 inches to 3 feet.  
 Brunch, 3 feet.  
 Whit-bed, 9 feet. (The really best bed of stone.)  
 Curf and waste, with chert beds, 6 feet.  
 Brunch, 1½ to 2 feet.  
 Head bed or lower tier, 5 feet. (Called also the "Best bed.")  
 Limestone and chert, 15 feet.  
 Other clay 1 to 10 feet.  
 Portland sand, 45 feet.

Kimmeridge clay, with septaria, 355 feet seen. The Portland sand, next above the Kimmeridge clay, and into which it gradually merges, is made up of layers of an olive-green-colored limestone, divided horizontally by sandy beds, the mass being shattered and broken. So unshapely are the blocks of which the layers are composed, that if it could be conveniently quarried, it would be unsuitable for building purposes. Some of the beds are soon destroyed by exposure to the weather, but others are comparatively more durable and exposed surface becomes covered with a thin crust of small ferns and the remains of the crinoid blocks on the north-west slope. The thickness of the Portland sand is about 45 feet.

thickness of the Portland sand is about 15 feet. The Portland stone proper and the Kimmeridge clay, the Portland sand may be considered the transition series, but notwithstanding this graduated development of the solid Portland beds, it is not easy to comprehend the origin of the Portland sand. It is not a sandstone, and it is not a clay, and we should suppose the Portland stone beds were when first deposited. What consolidated the Portland beds? If pressure produced the effect, why should the clay below remain unconsolidated? If the Portland sand is a sandstone, why should it be composed of ammonites, trigonites, etc.; it might have happened that the shells decomposed as they lay in the water, and the ammonites, or trigonites, or other shells, were broken up by the water, and distributed through the sand, and then, on certain crystallizing, consolidation was imparted between the beds of clay, the latter, by its impervious character, preventing

At the Vern Ditch (in connexion with Portland defences) a most favorable opportunity is afforded for examination and study. This cutting, when finished, will, in the aggregate, make up a length of 1,100 yards, by its width 100 feet, and in depth from 30 feet to 75 feet. From this, the enormous quantity of 1,074,000 tons must be removed. The excavated material is used in constructing the breakwater now in progress, under the Admiralty, in Portland Roads.

[illegible]

The beds, so remarkably regular, and almost horizontal in the cross section, suddenly dip at a considerable angle (30 degrees) on the east and west faces. This seems to have been caused by slips taking place in the direction of fissures, and becoming thus tilted over in the direction of the slope already described. The ditch in one direction, on the west face, is cut through a slip of this kind; and on the east face the tilted nature of the strata causes a difficulty in forming the contemplated perpendicular escarpment. This phenomenon, a different one from that of the other portions of the island, was evidently caused by the wearing away of the underlying clay and sand, the destructive effect of which was promoted by the existence of the fissures.

On the Vern Hill—which is a comparatively level space of about 50 acres, at the northern end of the island, bounded by the slopes described at the beginning of the paper—

The Basal-bed has been quarried to a limited extent; but, as might be expected from its geological position, the quantity was scanty and of inferior quality; for in Portland the material is now being moved off by means of a grapple, and is thrown to the surface, or run parallel with the surface, in either case, it is much broken and shattered for about 6 or 12 feet from the surface. The Basal-bed, in this shattered condition, extends over the greater part of the Vern Hill. It runs out to the south as it approaches the ditch, and from about 700 feet at the other side of the ditch, where it again crops out, it continues all over the island.

The local term "Best-bed," as applied to the stratum now under consideration—

The cause no little collision and disappointment; for, though it poses the finest texture and the most uniform color of any bed on the island, it is not really the best for many of the purposes for which it is proposed. Applied it is liable to become greasy when rubbed, and its surface is too easily scratched by stones or shells thrown into any water, and therefore meets with demand in the market. It may be no objection to its use for wash work, but it is not so good as the other beds for such purposes. The same may be said of the outside work it is ruinous. The misapplication of the term "Best-bed," and the injudicious employment of it for works exposed to atmospheric influences, had created a considerable prejudice against the whole class of beds, and has done more harm than good. The beds are left behind, and covered up in the *débris* quarried from the other tiers. The term "Best-bed" may be a corruption of the term Blue-bed, the latter being most correct when applied to the blue-colored beds of Portland, which are also the best in the Isle of Portland. It is very uniform in its texture and color, free from fossils, and may be found in any reasonable sized blocks, not more than 5 feet in one direction, this being

Overlying the blue-bed, and closely associated with it, there is a bed of "roach," from 18 inches to 2 feet thick.

Between the roach of the base-bed, and the Whit-bed, or really *Zest* bed, there intervenes a bed, or beds, called by the quarrymen "curl," and "waste"; this is divided from the underlying, as well as from the overlying beds, by layers of chert, and is often subdivided by similar layers; the quality of the stone, too, varies considerably, and is never fit for particular work.

Next above the curf is the Whit-bed, or the true Best-bed of Portland stone. The local term Whit-bed is a misnomer, and like the term Best-bed, as applied to the lowest bed, leads to confusion; for Whit-bed, in contradistinction to Best-bed, implies that the former is whiter and second in quality to the latter, whereas, in reality, the Whit-bed is the darkest and best, and (what is called) the Best-bed is the lightest and worst.

Architects should carefully note these distinctions. The texture of the Basal-bed differs from that of the Whit-bed, in that the former is comparatively free from fossils, whereas the latter contains a great quantity of comminuted shells, the fragments being just small enough to impart a light brown tint to the stone, without giving it a speckled appearance.

The durability of the stone as it appeared with the Base-bed, may be easily ascertained by the quantity of crystallized carbonate of lime by which it is impregnated, derived from the stone contained in this. The centre of the White-bed proves the best for exposure to weather, in consequence of its being the least impregnated with carbonate of lime. In order to ascertain the value of this fact, it is necessary to the proper disposal of this stone in architectural works, and to counteract the injurious effect of the workmen's practice in dressing the top of the blocks, which is to cut them off at the top, and to leave the bottom of the block high, and is necessarily split up into smaller blocks before it leaves the quarry. When a block, the full height of the bed, is parted in the centre, two stones are produced, each of which is half the height of the original block. The upper parting joint is the best, and the softer, the parts next to the top and bottom of the bed respectively.

When a mason, in setting one of these stones to work, he selects the surface part for the face, taking the least amount of labor to produce the more particular surface required; the result must, therefore, be to the disadvantage of the stone. Whereas, had the contractor selected the surface part for the back, the stone would have been more uniform in durability, as well as uniformity of color. The foregoing observations apply more particularly when the stone is laid square with the direction of its bed, and not "on its edge," as is the case with the Portland stone, which is laid on its edge. The Portland stone is of a laminated or fluted structure; but with Portland stone, for the reasons stated, it is questionable whether any advantage would be derived from insisting on laying the stone on its edge. The stone is not so uniform in color as the granite, and the fulfillment of such a condition, and very few, except the practical workman, can detect in some blocks of Portland stone which was the best ones, unless by the difference in quality of the surface. It is, therefore, a question whether it is not better to select the stone as it appears, it would be, indeed, unwise to enforce the above rule, viz., "that every stone

The quality of the Whit-bed—like all the other beds in Portland—varies considerably; for example, in one part of the Admiralty quarries it is exceedingly rough and frothy, containing numerous shells and white spots of a calcareous substance; the latter crystallised in concentric rings; whereas, in the same quarry, nay, even at the other side of a joist or parting, the stone assumes its usual fine and uniform texture. It would be useless attempting to account for this phenomenon, but such is the fact.

Generally speaking, the beds produce the best quality of stone northwards. At the north-west, both Whill-bell and Baco beds are of excellent quality; farther south, the Whill-bell is of good quality, but the Baco is of inferior quality, and the quality of the south-west beds both are inferior. On the east side of the island the Baco-bed is very good, and the Whill-bell is coarse and shelly; both beds are again deteriorated in quality southwards. The same difference in quality may be noticed in the curf and roach. The former may sometimes be found almost equal to the latter, but, as a rule, the distinction between the two is very marked, and is observed to be more or less just where roach is intended, particularly in exposed situations, as sea-walls or docks.

Overlying and closely associated with the White-bell is the ochreated Roach, a local term applied to a layer of about 1 foot thick, made up almost entirely by casts of various shells, such as *Gracilina portlandiana*, *Trigonia incurva*, *Trigonia bicolor*, *Nervosina saunsoni*, *Pleurostoma rugosa*, *Loricina portlandica*, &c. This is the only bed in which "the screw," or *Gracilina portlandica*, is found, and here it is in the greatest abundance; not a fragment of Roach can be picked up without finding one of these shells. The *Gracilina* is the most common, but that they frequently run into one the other; it is not uncommon to get a *Gracilina* in the cast of a *Trigonia*, or the cast of a small *Gracilina* in another. All the fossils of the roach, except the *Nervosina* species, are merely casts, not a vestige of the original shell is left, nor is the space it once occupied filled up by any calcareous matter; a fragment of shell left and the cast; it is this circumstance that gives the stone its spongy appearance.

For durability the Blonch cannot be surpassed, yet, notwithstanding this latter quality, it has not heretofore met with much favor in the market; hence thousands of tons quarried and squared up, have for many years been left lying about in all directions in the country, and hundreds of tons more have been covered up in the quarries or "dipped" over the western cliffs; latterly, however, it has received more attention, and it is now beginning to be extensively employed on large works of all kinds where its roughness is not an objection; for docks, sea-walls, heavy abutments, or bridges, it answers

\* "On the Geology of the Isle of Portland," by WILLIAM GRAY, Esq., Royal Engineer Department.

as the best Roach. Though very much alike in appearance, the good Roach is easily distinguished from the others by its darker color; it is more siliceous, and the coat of the Corallium Portlandense is present.

The Roach-bed is, on an average, about 3 feet thick, and blocks of almost any lateral dimensions can be procured from the quarries; blocks are sometimes laid containing so many as twenty nuclei. The bed is much broken by the veins of the corallium, and close-grained, resembling the underlying Whitbed. In the west quarries this lowest division of the Roach contains the peculiar white, cylindrical crystallisations noticed in the Crag Whitbed, and the corallium is abundant. The corallium division is that which gives the Roach its peculiarity, being made up (as described above) of numerous coats of shells; the upper and smallest division of the Roach is rather laminated, and resembles, in a faint degree, the calcareous state of the overlying bed; these three divisions are not easily divided, they are all closely combined in one mass. It is remarkable that the Roach-stone will not cleave readily in the direction of a plane parallel with the bed, or line of deposition. The quarries invariably show a fine direction square with the bed, and the fracture thus produced is uniform and regular, whereas, if the stone were split with the bed, the fracture would be irregular. The variety of shells which are contained in the Roach is perfect specimens, owing to the refractory character of the flint; polished specimens, and pebbles from the beach composed of it, give very good sections of the shells which it contains.

The Roach is the most recent formation of the Portland series; immediately above it comes the first bed of the Purbeck; but between those beds, and more particularly attached to the Roach, there are irregular patches of flint, full of shells; in the upper surface of the flint the shells are especially well shown. The variety of shells which are contained in it is very great, from the large oyster and pecten to the smallest cyrena, but it is difficult to detach perfect specimens, owing to the refractory character of the flint; polished specimens, and pebbles from the beach composed of it, give very good sections of the shells which it contains.

The next bed above the Roach is the "Skull-cap," so called from its position with regard to the Roach; though this closely associated, there are essentially two beds, the lower being of marine origin and belonging to the Portland series, and the cap of freshwater origin and belonging to the Purbeck series. The skull-cap, which is one division of the overlying bed, is like the latter, and is composed of a layer of black shale, and a layer of light-colored sandstone. The sandstone is very fine, for example, the skull-cap, in one part of a quarry may be only 30 inches, and within a short space it may swell out to a thickness of 2 feet or more; the overlying cap, taken together with the sandstone, is about 12 feet thick. The sandstone is very fine, and the irregularity of the upper surface of the skull-cap corresponding with the uneven bed of the cap, the ridges of the one fitting into the hollows of the other; but they are divided by a layer of black shale, resembling that which is found in the main bed. The sandstone contains cyrena. In the cap there are circular perforations of about 4 inches in diameter; they resemble very much the holes drilled for blasting, were it not that the same for about 10 inches all round the hole, differs materially in its texture from the main bed, being vesicular and porous, and seems as if some crystallisation had taken place around some nucleus once occupying the space; this appearance is more marked in the upper part of the cap, where the cap is compact and close-grained, and even preventing the fossil structure. The upper portion of the cap is more laminated than the lower, and about 2 feet of it is easily separated from the rest; this thickness is called the "top-bed" of the skull-cap.

Immediately above it there is a bed about 12 or 14 inches thick, called the "soft burn." It is used in the island for building dwelling-houses, which its soft porous nature causes it to be exceedingly damp.

It is from this that the sand used for building purposes on the island is obtained, thousands of tons being brought on the extensive works in progress on the Varn Hill. There are no remains of shells, or other organic body, found in these sand and gravel pits, but on the east side, and north of the hill, there is a deposit of a finer description, which is full of shells and roots of plants; one layer, of about 1 inch thick, is composed entirely of shells in a perfect condition, and where they are exposed in section they are conglomerated in a few minutes. The deposit is about 4 feet above the level of the sea.

Geologists and architects are alike indebted to Mr. Gray for his researches.

## DWELLINGS OF THE OPERATIVE CLASSES IN EDINBURGH.

AT the annual general meeting of the Architectural Institute of Scotland, Mr. J. D. Peddie in the chair, Mr. David Cousin read a paper on "The Present State of the Dwellings of the Operative Classes of Edinburgh," a topic suggested by the late calamity in that city.

It appeared that nearly one-half the whole number of houses in the entire city are of the poorest description, and are rented at sums not exceeding £5 per annum. The total number of dwelling-houses may be stated in round numbers at 52,000; of this number there are 20,355 at and under £10 per rent, 15,193 at and under £5 per rent, and 12,747 at and under £5, and 9,076 below £4 per rent. We have thus the enormous number of 15,193 houses at and under £5 of rent—a large proportion of which are huddled together in the old "lands" of the High-street and Canongate, and adjacent wynds and closes, many of these towering to a tremendous height of several stories above the level of the street. These tenements, or "lands," were originally built as the town residences of the gentry of their day. Each flat, consisting in many cases of eight or nine rooms on a floor, was occupied by a single family; in many cases the upper floor and attic were let out as one house, and sometimes the whole of the second and third floors were let as an interior staircase. Those houses are now divided from their original use and converted into houses for the working classes, and in many cases of a still poorer class of tenants—each separate room forming a separate house for a whole family. In many cases you have 16 or 18 or 20 families all packed into a few dwellings by one narrow turnpike road, and water being supplied by one well-pipe not more than 34 or 36 inches. The rents for such apartments vary from 1s. per week to 1s. 9d. or 2s., according to the size of the apartment. In one land which I visited lately, I found 56 different families all entering their separate dwellings by one narrow staircase, and the water was supplied by one well-pipe in the street. A survey had been made of this land, when it was found that there were 59 families in 79 rooms, and 224 inmates, of whom 54 were men, 78 were women, and 112 were children. This vast tenement is six stories in height, besides the attic, and to none of all these families is there a separate fire, and no separate water-closet, nor other necessary conveniences of any description. All water for domestic purposes had to be carried from the public well in the street up to the highest house, and all soil had to be carried down to the water channel in the street. Only three of the 50 families had a separate fire, and only one had a foot of a cul de sac five feet wide, surrounded by tenements 45 or 50 feet high! Think of the population of a whole village crowded into a single staircase—these houses destitute of the means of personal cleanliness or sanitary arrangements. I had enough to see to satisfy me that the conditions of these dwellings were such that many of whom I found sitting in little groups on the steps of the dark chilly unwholesome staircase or congregated at the mouth of the close on the public thoroughfare, subject to the contaminating influences of the foul air arising from the water channel, and the night soil is removed out to be removed by a scavenger in his werry rounds, in unbecoming effort, and the streets are kept up surface cleanings. Such scenes as these are but specimens of what is everywhere

to be witnessed, and it is such scenes that have given our old town such unenviable notoriety.

Referring, then, to the physical and moral effects of such dwellings on young men, and to the speaker proceeded to consider where in the city he had seen, the first object being to secure the erection of additional dwellings, so that the overcrowded portions of the city might be opened out.

The best method of securing success would be for the working men themselves to take the matter into their own hands, and to be persuaded by the speaker to take up the question of providing house accommodation for their families, it would be one of the greatest means of social advancement that has yet been attempted. They know their own requirements better than any other class of men, and the best of working men are not to be deterred by the fact that new. In the year 1820 a co-operative society was formed in the town of Glasgow, consisting of forty-eight members, joined together for the purpose of providing houses for themselves. This object they accomplished in the course of several years, during which period six separate tenements were erected, with eight houses in each, between the High-street and the Canongate. The property was managed by the tenants, and the tenants were to be the Canning-place, Causewayside, and it is to this day a fair specimen of what workmen's houses ought to be. The plans were prepared by one of themselves, another took charge of the weekly subscriptions, and the whole affair was managed without expense. The committee was organized for the purpose of the erection of the building in the ordinary way by competing estimates. The entry-money, I understand, was £5, which gave a small capital to begin operations. The weekly contributions of 2s. from each member helped the stock, and after the buildings were advanced to a certain stage money at the ordinary rate of interest was easily procured. Each house consists of a room, kitchen, light bed-chamber, and two dark closets, with water supply, soil-pipe, sink, and water-closet. The cost of such houses at that time was only about £80.

As the speaker proceeded to state that the wages in the town of Glasgow as has already been said, commenced in 1830. The wages in that year for joiners were 15s. per week; in the following year they were 14s. Yet with such low wages forty-eight industrious self-denying men were found with firmness of purpose sufficient to enable them to conduct a successful enterprise.

They were, however, not so much deeper during the period I have referred to than now; clothing was quite as dear then as now; some articles of food were much higher, as tea, for example, which at that time was 6s. per lb. The wages of the joiner now averages 22s. per week; that of masons, at the present time, is 15d. per hour—which for sixty hours per week, the length of time during which they worked at that time, gives a wage of 27s. 6d. per week, or, at fifty-two hours per week, as now arranged, a wage of 22s. 10d. per week, or fully one-half more than their brethren of thirty years ago. If industrious workmen could in the present time do as much as the men of thirty years ago, must have been the means, as it was the avowed object, of enabling working men to secure houses for themselves to a great extent. This I fear has not been the case. On inquiry at the manager of one of the largest of those companies established thirteen years ago, I find that the wages of the men employed by its members, or the purchase of property no less than £200,000. Of this large sum not more than £5,000 has been advanced to journeymen tradesmen, or clerks with corresponding wages, for the purchase of houses for their own occupancy in Edinburgh. Small tradesmen and journeymen have availed themselves of the facilities which these companies offer of getting money, and have purchased house property of an inferior description on speculation, for the purpose of being let or sold over again at an advanced rate. The prices paid for such properties in closes and back-courts range from six to eight years' purchase.

In most cases such properties have been purchased by persons who seek to derive, as large a return as possible, without view to sanitary arrangements—a few laudable cases form the exception. It thus appears that investment companies have not altogether realized the object originally contemplated—namely, of enabling working-men to become proprietors of their own dwellings. The speaker then proceeded to state that the object of the society was to improve the houses of the working-classes. A co-operative building company has lately been formed, with a nominal capital of £10,000, in shares of £1 each. I believe there are already upwards of 200 members. Such a company, if once first started, will be required to build a number of houses for the use of the working-classes; but to be available to any considerable extent, they would require a large capital for investment. Such a company, for some time at least, cannot be expected to have capital ready to invest in fixed property. The object of the first meeting was to build and sell the money in aid of the society, for the purpose of being let to workmen, and associations of the nature I have formerly referred to, as exemplified in that of 1830, might work harmoniously along with the co-operative building society—the one advancing the money to build, the other entering into contract. Benefit societies, where capital is accumulated, and where a secure investment is offered. There are many ways in which workmen may combine to secure this desirable object. The first great desideratum, however, is to secure the erection of additional houses by any means; by getting houses of the kind they require, they must be provided. The next step is to look into the existing house accommodation occupied by the lower-rented tenants, paying from 1s. to 1s. 9d. per week for rooms such as I have already described. So long as these hovels are allowed to remain they will be filled by tenants who are not the working-classes, and the working-classes will be driven out. So long as you have places only fit for pigs, you will get pigs to occupy them." Self-preservation calls on us to remedy this growing evil. How is this to be done? That's the question. Let those old houses of "excessive, incommodious, and dangerous" character be repaired, and let the streets be widened. Open up new lines of streets between the High-street and the Cowgate on the one hand, and the Old Phylae-gardens and north back of Canongate on the other, parallel to the High-street, or winding in such direction as the special necessities of the case may require, and having large drains, and let close the old-fashioned row of old houses. What is wanted is free open space.









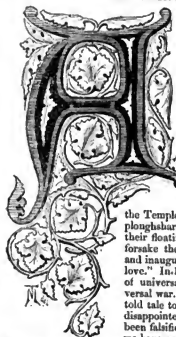








## THE YEAR'S PROGRESS.



**B**UT the first thing that will strike the reader, on his glancing backwards over the art-history of the year just ended, will be the remarkable and painful contrast which it presents with its predecessor, 1851. Then we carried to a pre-eminently successful issue a great experiment—the International Exhibition. We were in the fourth decennium of uninterrupted peace in Europe. We had seen a gathering of all nations in bloodless contests and in useful rivalry. We boasted that we had taught the nations of the earth their true interests, so that thenceforth they would close

the Temple of Janus, beat their swords into ploughshares, disband their armies, transform their floating citadels into merchant clippers, forsake the art of war for the arts of peace, and inaugurate an era of "universal brotherly love." In 1851 we believed in the maintenance of universal peace—to-day we fear a universal war. It would be to repeat a thrice-told tale to relate how these hopes have been disappointed—how all these predictions have been falsified. In the short space of eight years

we have seen two European wars, two great wars in the dust, and driven to revolution or reform, not by moral suasion, but *et ex armis*. A nationality has been raised from the tomb where it had slumbered for centuries, and a sixth Great Power called into existence by war. We have seen English dominion in the East threatened by the rebellion of its armed defenders, which ended in consolidating our rule, and made our Queen Empress of India. The swords of England and France have opened China to the world's commerce, and we are now fated to behold a heart-rending contest between two branches of the English family, while for weeks past we trembled lest with all our precaution, we should be drawn into the contest. On the other hand, and notwithstanding these wars, we have witnessed a development of material prosperity among nations which the most enthusiastic believer in human perfectibility would not have ventured to predicate ten years ago. We have added more than a million and half to the resident population of the three kingdoms, besides upwards of two millions who have left us—stimulated to emigrate by the gold discoveries—for new worlds, there to add to the foundations of new English empires. There must be nearly four millions of our race more than there were ten years since, and our trade has more than doubled in that period, for our exports have risen from seventy millions in 1851 to £165,670,653 last year.

The decennium just closed has been a truly epic one; it has been an heroic period. Its annals will read more like the books of an Homeric poet than like the chapters of matter-of-fact history; for the landmarks of nations have been changed, new empires planted, and the destinies of races altered. Yet, while these great things were doing, and have been done, no poet, sculptor, painter, or architect has been inspired to celebrate them in verse or by the arts of design. The arts of peace have not kept pace with the arts of war, or, perhaps, we should say, they have entered on divergent paths, never to associate again. Few will regret the divorce, if war be left to its brutal and bloody realities, and art reserve her idealising and glorifying powers for those achievements which conduce to the happiness instead of to the destruction of men.

If we are right in surmising that neither Caligulae nor her sister Graphia will henceforth make the deeds of Mars the themes of their works—at least, not in England—it must not be forgotten that the change of direction in the workings of art is due in some measure to one whose loss we still mourn. There is no doubt that, with our national instincts, we were dictated by patriotism or undertaken for the defence of honor and freedom, will always command our sympathies and support. But the public mind happily distinguishes between wars of this nature and those which spring from lust of conquest, a thirst for glory, or a desire to realise ideas. So far as he was permitted, the Prince Consort led public opinion into this new channel. Without ceasing to take a lively interest in our national defences, he never condescended to play at soldiers, but directed the energies of his mind to the advancement of art and to the promotion of social happiness. On the last occasion of his appearing in public, he asserted his belief that "whatever tendency to foster a taste for intellectual

enjoyment must also exercise an important influence on national progress and national prosperity." If anything could increase our regret at the irreparable loss recently sustained by the nation it would be that it should have occurred before his Royal Highness had had occasion to display an interest in the advancement of architecture as active as that which he displayed in the progress of the sister arts, and of which prominent signs were exhibited in the inauguration of our Industrial Museum at Edinburgh; for whatever the progress of our art may have been during the last twelve months, never was the want of a controlling spirit and of an impartial guide more felt than now. On all sides the condition of the profession is admitted to be unsatisfactory.

Besides the great question of aesthetics, which divides it into two parties, petty personal jealousies and individual rivalries spring to the surface, and set the profession in an unfavorable light before the world. Since the time of poor Haydon the public has not been vexed by quarrels and bickerings between painters or between sculptors. Even literary men, forgetting the traditional example of the "Quarrels of authors," have learned the wisdom of the adage *qu'on doit laisser les choses se faire*. Architects, alone, seem incapable of composing their differences, and of refraining from unfriendly criticism upon the works of their brethren. The election of a president to the Institute was made the battle-field between Classicists and Gothicks. It seems to have been accepted by mutual consent as an arena for a trial of strength between the two parties; Mr. Tite was proposed by the Council, and was accepted as the Champion of Classic architecture. Mr. Beresford-Hope, was the champion of the Gothicks. The two gentlemen representing extreme views in architecture were set up in opposition, and Mr. Tite elected by a majority of fourteen, the numbers being sixty-five to fifty-one and but little more than half the number of electors voting. If the result be claimed as a triumph for the Classicists, it shows the Gothicks to be in greater force than was perhaps thought, and may encourage them to discipline their numbers and bring up their reserves next time. It is no more than justice to the President to state that he has exhibited moderation in his uses of victory.

It is, perhaps, to the division of the profession on aesthetic principles that we owe the non-settlement of the diploma question. Whether diplomas will ever be established, or whether, if established, they will ever be valued by the public beyond the price of waste paper, are matters into which we need not go, except to say that the passing of the attempt to make civil engineering a close profession by means of Putney College and its diplomas, signally failed without apparent detriment to the public. But there is no doubt that the question ought to be settled and that speedily.

According to the statements of advocates of diplomas, the profession is jeopardised by the intrusion of unqualified practitioners, the social standing of architects is lowered, and the public placed at the mercy of incompetent persons; if so, all the more urgent is it for the Institute to decide on the institution of examinations and diplomas, or what other fences may be deemed desirable to exclude incompetency; for, by postponing their decision, it is quite possible the whole scheme may be defeated.

The Copyright Bill introduced by Government at the early part of last session might have been made conducive to the interests of architects, if the profession had been united and properly represented. It may give pain to say so, but it is, nevertheless, true, that neither the Institute nor its Council sufficiently represents the profession. They cannot be fully entrusted, under the present system of organisation, with the care of architectural interests. This has led to a proposition for the amalgamation of provincial societies with the Institute and Association, but that, like the diploma question, made but little progress towards solution. The architects should have a bond of union, a platform common to all, and an organisation which will enable them to speak as one man on occasions where they are concerned, most people will admit. The only difference of opinion is, as to how it is to be effected. Amalgamation is beset with difficulties. There are so many individual susceptibilities that would have to be consulted, and such a variety of interests to be safeguarded, that we look on the task as one of the greatest difficulty.

In appealing to the Institute to investigate the causes of the decay of stone employed in the construction of the New Palace at Westminster, and to examine the remedies suggested by Mr. Ransome and others, the First Commissioner of Public Works and Buildings would appear to have forgotten that in the provincial Architectural Associations there is available an extended knowledge of building stone, and a practical acquaintance with their use. There could be no harm, and it would have been no more than a well merited compliment, to have asked all the Architectural Societies of the three kingdoms to have examined the subject, for some new light might then have been thrown upon it. The committee appointed, by the Institute and in which leading engineers, chemists, and geologists were associated,

undoubtedly did their best, and they are hardly to be blamed if they left the question where they found it. They have added nothing to our knowledge of the causes of decay, and they were "decidedly of opinion that the discovery of a proper mode of treating stones in a state of decay had not yet been made," and that there is no evidence that "the decay has been prevented by any of the processes yet applied"—conclusions scarcely worth the trouble they cost to arrive at.

We must defer some additional remarks until next week.

#### MONUMENT TO THE PRINCE CONSORT.

NOTHING could be more natural, or could better testify to the widespread feelings of respect for the Prince Consort, than the proposals recently made for erecting a monument to his memory. That an enduring memorial of his worth, and evidence of the national esteem in which he is held should be erected, we are all agreed; but there is some difference of opinion respecting what should be the character of the memorial. Ultra enthusiasts of every hue trot out their respective hobbies with more apparent desire to outstrip competitors than is befitting the melancholy occasion. One wishes national subscriptions to be made to flow into the exchequer of the South Kensington Museum, in order that it may thereby be rendered independent of Parliamentary grants, and be erected into an "Albert Institution for the Art Education of the People." Others put forward the claims of philanthropic establishments, hospitals for every variety of disease, reformatories, and ragged schools; while, in the estimation of some, where the feelings of others are concerned, and totally oblivious of the decrees of life, when it is a question of bringing out their particular hobby. Philanthropists should carefully avoid doing aught that might tend to their being confounded in popular opinion with selfish traders on woe; for it is difficult to draw the line of distinction between men who seek to turn a reverence for the dead into a means of gratifying greed, or of raising or personal vanity. In both cases self-interest is the mainspring. Although there can be no harm in connecting charitable institutions with the memory of the dead—if their supporters desire it—to act in the manner proposed, would be to charge the dead with the work of the living, and the "lamp of sacrifice," would be transformed into one of utility. In founding and supporting institutions for the cure of disease, ignorance, and crime, society does a work which if charitable, is also economic, and is also in accordance with the laws of the universe. Charity is a virtue the practice whereof is enjoined by divine authority. It is a feeble acknowledgment to the Giver of all Good of gratitude for his mercies. It is one of the means whereby the rich may work out their own salvation, and is, therefore, a double duty incumbent upon all who have the wherewithal to give.

The satisfactory progress made within the last half-century in the diminution of the rates of mortality, poverty, ignorance, and crime, is a conclusive evidence that they are not the normal condition of certain classes of the community. Paupers and criminals, and disease are due to the *laches* of society. Where *Dives* diverts his talent to the gratification of his sensual desires, and allows his poorer brother to dwell in dirt, in rebellion against the principles of sanitary science, and without pure air, light, and water, then will *miseries* increase to behold from his castle at his gate beg and beg. The duties of property are as clear and positive as are its rights. The Registrar-General's returns show that their fulfillment will reduce the rate of mortality, prolong the average duration of life, and diminish the sick rate. If property does not fulfil its duties it forfeits its right, and if it supports hospitals it does reparation very inadequate to atone for its previous neglect. Education is another of the duties of society, which cannot be neglected without loss and evil resulting. The present generation is bound to instruct the rising generation—parents to teach their offspring to know good from evil—and the community, in obedience to the dictates of self-interest, to provide the means for all species of instruction. Where this is not done there is a neglect of duty, and charitable contributions to schools or colleges are insufficient reparation. If English society neglects these duties it must charge the memory of the dead with contributing to make reparation, as far as is possible, by bearing the burden of atonement. We must bear the load ourselves; we are wealthy enough to contribute all which, under the disguise of charity, may be asked from us to repair our neglect, and we can also afford to permit to posterity a monumental record of the services to ourselves rendered by the Prince Consort, of our gratitude therefore, and of our admiration of his virtues.

For these reasons we conclude against a combination of utility, profit, and vicarious discharge of duties in any shape or manner as a public monument to the Prince. We object to the national tribute being devoted to establish an educational institute, model farms, hospitals, reformatories,

refuges, or museums in *memoriam*. We submit that art, or the sister arts, working by the lamp of sacrifice, should be enabled to erect a monument as enduring as it could be made, which should proclaim to future generations of men, by the eloquence of artistic forms, the national sentiment of the present day.

There is no objection to any class of philanthropists identifying the work they have in hand with the memory of the Prince Consort. By all means let them do so in their character as a class, and as an addition to the national memorial. Consequently, it would be a cause for much regret, if anything we have stated should be construed into disapproval of Mr. Cole's suggestions for carrying out the scheme devised by the Prince for establishing an industrial university. For the chief characteristic of the Prince was his industry and his labor, which prompted his unceasing efforts to raise it in general estimation. But the industrial university would be for the advantage of the community. Its purpose is to augment our industrial superiority with a view to enlarge and consolidate our commerce, and in carrying it out we should not so much raise a monument to the dead, as we should lay the foundations of future manufacturing prosperity. By all means, therefore, let those who have an interest in the question, and the department charged with public education realize the Prince Consort's scheme. But let them guard themselves against the idea that by so doing they are erecting a monument to his memory. For dishonouring as it may be to confess it, it is nevertheless true, that charitable endowments do not perpetuate the memory of their founders among society at large. How many pass by the Charter-house who never heard of Stutton, or in the same manner, of the noble St. Clare, while many have been mismanaged or improved, until they have fallen into oblivion. So true is this that Mr. Cole does not advocate the industrial university, except as supplementary to "other memorials of a monumental character."

Agreed upon this point, we are brought to consider the proposition for erecting a monument in the shape of an obelisk, to commemorate the Prince Consort's connexion with the International Exhibition of 1862. But the Prince Consort is not the only thing that the Exhibition, which is quite as noteworthy, and equally deserving of commemoration. It is not to a particular action of his life we desire to do homage, but to his memory, taking him for all in all. Further, the proposed monument would be a work of supererogation; for, close to the site of the 1851 Exhibition—in the gardens of the Horticultural Society—is to be a public memorial of the Exhibition, surmounted by a statue of the Prince Consort—given by his son—in lieu of the statue of the Queen. We do not require duplicate memorials erected in the same locality, but one national monument in the metropolis of the empire, which shall be so intelligible in its character as to be comprehensible to all. With respect to the artistic character of the monument, which it has been endeavored to predetermine, a very great deal may be said against an obelisk, and in favor of a less suitable shape that could be adopted. It may not be so objectionable as a detached column, which is an isolated architectural feature set up without cause or purpose; but it is not an artistic form any more than a common milestone. Obelisks in Egypt have a fine effect, but that is due to the physical and atmospheric character of the country. A vast plain bounded on all sides by the horizon with scarcely an undulation, and whatever structures may be set up not rising more than a few feet above the level of the soil around of an obelisk being seen to every advantage, towering aloft in solitary grandeur, in a clear and luminous atmosphere, and with the horizon for a background. Here we have none of the conditions that conduce to the advantageous appearance of an obelisk, but many that militate against it. Sir Francis Chantrey pointed out many years ago the absurdity of erecting columns and therefore obelisks, in London or in English towns, on the fact that they have to compete with and are lost among tall chimneys; and he spoke of Rome, where there are no chimney-shafts, as a suitable locality for monumental shafts. A column, and we have three of them in London, rising above the level of surrounded structures, surmounting by a statue or ornamental finial is more easily distinguished than an obelisk, which, so far as regards its artistic outline, would be lost to the eye. To erect an obelisk, which is instead of the horizon for background, and clear atmosphere of the East, an obelisk in London would be reared against a background of trees, or dingy houses, and in an atmosphere of fog.

There is, of course, a precedent for employing obelisks as monuments. Sanchoianism wrote that the Phœnicians and Egyptians consecrated columns to those who benefited mankind, and to the elements; but that may be questioned. Their real use was to serve as "Books of History." An obelisk with inscriptions would be purchased and an obelisk from the East who would venture to propose to incise the faces of an obelisk in London with inscriptions? Letters would be invisible, and hieroglyphics unintelligible. "But," it may be answered, "the story would be told on the base." In that case the obelisk would be a superfluous, for the base would be the monument, and what might be above would be a useless ornament, and therefore in violation of one of the "first principles." The minds of the people are not so constituted as to be attracted by the beauty are struck by reference to the St. Petersburg monument, which is 84 feet long, and, with the base, rises 154 feet high. We could certainly obtain quite as respectable a monolith from the granite quarries of this country, for Mr. Robert Hunt sold the Society of Arts in 1859 that he was quite satisfied a monolith 90 feet long could be quarried here, and Mr. Bellamy states that a large quantity of granite of the same quality could be obtained from Cornwall a monolith 120 feet long, by 14 feet on the sides. But, however much the dimensions of known obelisks might be exceeded, the result would not be a work of art.

We submit that a monument to the memory of one so universally

esteemed and regretted should be a work of fine art—the highest that can be obtained, and that it should exhibit that combination of the sisters which Mr. John Bell has so eloquently advocated in these pages. We shall not now obtrude suggestions as to what the character of the monument should be, although we may venture to express the hope that architecture will not, as hitherto, be placed under ban and interdict, but may be permitted to provide a home for the monumental sculpture. It would, perhaps, prevent much ultimate disappointment, and satisfy the longing of the nation to pay the highest honor that can be offered, if public competition were invited as the surest mode of obtaining the best design. In all cases it may be desirable to depart from the ordinary course, and invite those who wished to compete to send in their names. From this list a committee would select half-a-dozen of those who appeared to be most competent to supply designs, for which ample remuneration would be made, and the author of the best employed to carry it into execution.

#### THEATRICAL SCENERY.

**MR. W. CALCOTT'S** "Transformation Scene" at Covent-garden Theatre, when first presented to the public, was much more complicated than it now appears; it is, however, still complete in itself, and very effective. At the commencement the stage is thrown in darkness. As the first gauze rises an indistinct light of color is obtained; gradually some shells on banks of gold, constituting the foreground of the picture, become visible, after which they present a more positive appearance by the dark blue of the water near the foreground. A second gauze is now raised, and shows an extensive cavern, painted in gradations of the warm, dull color in the front, also another tint of the water. A third, an intervening medium, is removed, and the scene is enriched with a rising bank of green and gold between the two pieces of water, at each end of which an arch gradually ascends towards the roof, the cavern bearing fossils in gold; a brilliant light being thrown upon them the splendour of the scene is greatly increased. Two large shells afterwards appear, bearing a female figure in each of them very elegantly dressed, and illuminated by a most dazzling light. The general effect is now a contrast of vivid green, among which is distributed a large portion of dull gold. In the middle distance, and the centre of the stage, a large mass of plant of fern-like leaves slowly ascends, becoming gradually brighter than the shells at the sides; and now the plan of the scene becomes more generally developed by all the objects being reflected in sheets of looking-glass lying in the foreground, surrounded by the bank and shells already described, the effect of looking-glass being intended to represent tranquil water. When the centre object has risen to the intended height, the front of it slowly opens, and descends until it forms part of the scenery below. A female figure has been enclosed in this ornament, and the descending form containing looking-glass, adds the reflection of her figure to the rest of the scene. The brilliancy of the light is now diminished in gradations on the surrounding objects, and all the most vivid rays are focused upon the central figure. The white gauze, which has been raised, is now lowered, and its textural quality, being incapable of reflecting bright light, forms an excellent contrast to the vivid green, brilliantly illuminated, by which she is surrounded, and which is at the same time, both delicately and effectively opposed by a pink scarf thrown across the shoulder. The pink scarf forms the complementary color to the blue, green, and yellow of which the rest of the scene is composed, the whole of which is completed by some maids appearing as floating on the water, while the roof of the cavern over the foreground is composed of dull green fern-leaves, branches and portions of the cavern itself. After the audience have had time to enjoy the general effect, the whole is changed, by green light being turned on, and it gives both a cool and elegant aspect to the design. A red light is then mingled in rays with the blue, which produces a striking contrast between the front and the back, the scene, the central figure, ultimately assumes the ascendancy, and the curtain falls upon this last effective change.

The scene is highly credible both to the artist and the management.

**ART DESIGN AT THE INTERNATIONAL EXHIBITION.**—The following minute of the Art Designs Committee of the International Exhibition of 1862 has been forwarded to the public:—The committee for the International Exhibition, being desirous of exhibiting the progress of art designs for manufactures, would be glad to receive contributions from possessors of drawings and models by British artists executed within the century 1763-1862. Artists, designers, and makers of such works will be heavily taxed to send such suitably framed and glazed, or if of large size on strainers, properly prepared for hanging. Designs in all departments of art industry capable of reproduction are admissible in this class. Designs for glass and ceramic wares, precious and other metals, furniture and other articles, and for the arts of painting, relief; also designs for textile fabrics, paper hangings, mural decorations, tiles, mosaics, inlays, stained, painted, and decorated glass, &c. Assistance from the possessors of drawings and models by such artists as Chambers, Adams, Soane, and Flaxman, Potts, Pugin, Wyon, and others, is especially desired; and the committee trust that the labor of such works will be amply rewarded by the secretary as early as convenient. Illustrations of an original character will be admitted into this department. All works must be delivered for the inspection of the committee, on or before the 31st of March, at the South Kensington Museum (office chamber).

**THE INTERNATIONAL EXHIBITION.**—Mr. F. R. Sandford, the Secretary of the Commissioners of the International Exhibition, authoritatively contradicts the statement, which has been circulated, that his Majesty will open the Great Exhibition in person.

#### NOTES FROM PARIS.

**A CORRESPONDENT.** "C. H. D." notes, among other matters, that all that block of the *cité* bounded by the street of the same name, the Boulevard de Sevastopol, the Quai Neuf du Marché Neuf, and the Rue Constantin, is in course of demolition. Those who wish to give a parting glance at this interesting portion of old Paris have no time to lose, for most of the expatriated buildings have been abandoned, given up to the contractor, or shut up. This ground, to be the site of new barracks, was at one time the industrial centre of the capital: there were three churches there, St. Germain-le-Vieux, in the Rue de la Calandre, fronting the Rue aux Fèvres; St. Pierre des Fosses, where stood subsequently the Convent des Barnabites, of celebrated memory; and St. Martial, situated at the end of the Rue de la Calandre.

This last church, demolished in 1722, gave way to a house which, up to the revolution, served as a presbytery for the curate of Saint-Pierre-des-Artes, a neighbouring parish. It still exists. The Rue de la Calandre which we now find so narrow and cramped up, was at one time the Boulevard of Paris. Every cortege from the Palace to Notre-Dame passed through it. In the group of buildings to be cleared it figures the Rue des Carreaux, barred up since 1825; in 1700 it was known as "La Rue de la Femme coiffée," its width varied from 1m. 10c. to 1m. 76c. At one extremity of this street opens the celebrated Rue aux-Fèvres, described in the "Mysteries of Paris" in its present state none of the *lapis fœneus* or *coupe-gorge* exists, as it had many years ago undergone a transformation; the noisy tavern of the *Lapis-Bleue* was transformed in a fantastic gallery or saloon, if we can believe the following lines inscribed on the walls outside:—

Pour un musée n'allez pas à Versailles.  
Le Lapis-Bleue vous offre ses murailles,  
Cherchez de réminiscences  
Et de curiosités,  
Mais n'allez pas.

The postmaster was evidently not ashamed to sacrifice the grammar of his country to the exigencies of rhyme.

The exterior boulevards of Paris proceed actively; already they are opened out from Montmartre to La Chapelle, and continue to be pushed forward from the ancient Barrière of Clichy as far as that of Alouette. They are expected to be completed very shortly. These "circular" boulevards are really formed in a sanitarious point of view, as, when they are well planted, they will become veritable magazines of oxygen, yielding forth their daily supply.

In the *Moniteur*, about three years ago, there was an account of some very interesting experiments made by M. Nadar, the photographer, of Paris, upon his first ideas of acrostatic photography applied to the plains of Clichy, whereby he really effected a stupendous purpose. Long before the American journals began to speak of the acrostatic telegraphic apparatus worked by electricity the above artist had completed two machines, one working up in a balloon at a lofty altitude, and another at the surface of the earth, the communication being, of course, instantaneous.

The Roman battis of Perigueux, discovered some four years ago, are still objects of interest to visitors, and are situated in the plains of Campagne, which they are the first remains of importance which have been found in so complete a state. Paris possesses the Julian Battis, &c.; but, up to the present time, no one has had an opportunity of examining the internal dispositions of a vast establishment of Roman battis with details such as are revealed by the excavations at Perigueux. We have no positive information as to the precise epoch of their construction, yet it may be presumed that they are of Roman origin. In support of this an altar of early construction bears the following inscription, in characters of the second century:—

In order to accomplish a vow, Marcus Pompeius, priest of the god Mars, freedman by birth of the emperor, son of the senator, Lucius Pompeius, constructed the altar to Mars, and to Venus, and to Apollo, after having received from his expense the temple of the temple goddess and the public baths, which had fallen into a state of dilapidation.

The above altar is now in the ruins of the Château de Beaufort, belonging to the Commandant de Beaufort, who has collected all the objects discovered, and who shows them to visitors with the utmost courtesy.

**RAILWAY TRAVELLING.**—Mr. William Hawes has addressed the following letter to the *Society of Arts' Journal*:—"Mr. Baker, in his paper on this subject, assumed that constant daily railway travelling produced injurious effects on the human system. I have no doubt that this is the case, but I think that it was less in second-class carriages than in the first-class, and less in time than in second. I will not now stop to inquire whether his view of the cause of the result be erroneous or correct, but I hope you will allow me to request that our *Journal* be the medium through which the necessary inquiries may be made. I am sure that the subject may be collected, and, when collected, compared and analysed for the benefit of the public. The first step in such an inquiry is, to collect facts, and this can only be done efficiently if a large number of railway travellers will be good enough to answer, with care, a series of questions compiled for this purpose. I am sure that the very interesting results will be of great value. With your permission I will submit a series of questions to the readers of the *Journal*, and if those whose experience enables them to do so will be good enough to forward their replies to the office of the Society, addressed either to the secretary or to me, I will be glad to publish them in the *Journal*, and so on, my only wish being to fill, as it were, the following questions:—1. Do you travel daily, or nearly so, by railway? 2. How many miles each day? 3. State the hours of travelling and of your meals? 4. For how long a period have you been travelling regularly? 5. Which class do you travel by? 6. Have you any inconvenient or disagreeable railway journey, and if so, of what nature? 7. Do you sleep while travelling, and, if so, do you sleep in a carriage refresh your tea, for instance, in a chair? 8. Do you read, or otherwise employ your time during your journey, or did you do so at one time, and have to give it up?"



## THE NEW FINE ARTS COURTS, SOUTH KENSINGTON MUSEUM.

THE first portion of the permanent buildings of the South Kensington Museum will shortly be completed. The public will find therein another opportunity of sitting in judgment upon Captain Fowke's powers, and professional men another target for criticism.

We are no partisans of Captain Fowke. We have criticised his works, but we have done so fairly and honestly. We cannot turn our backs upon the arcade of the Horticultural Society, which do not, to say the least of them, suffer by comparison with those of Mr. Sidney Smirke—to strike a blow at Captain Fowke's reputation through works which he did not design, and we do not refuse him a place amongst architects because he has had the advantage of a scientific education. We wish to judge of the executed designs quite irrespective of the consideration that the author of them is or is not a regularly-trained architect. A good design by even an amateur is far more acceptable than an indifferent one by a recognised professional man. In this spirit, we proceed to describe Captain Fowke's recent work at the Department of Science and Art.

It is scarcely necessary to remark that the whole of the buildings now constituting the Museum were meant to be but temporary structures. The contemplated front towards the main road consists of two wings, with a curved recessed central feature in the Italian style. This will eventually supersede the block of shanties which now fringe the thoroughfare.

The permanent Museum has, however, been begun at the north-east corner of the site, to the north of the Iron Museum, and to the east of the Turner, Vernon and Sheepshanks galleries. This first instalment comprises a Northern and a Southern Fine Art Court, with offices to the east of them on the ground floor, and picture galleries above. The South Court is the one first reached from the northern extremity of the "Boilers." It is a street wide by 110 feet long. There is a passageway running down the centre, which leads to the Northern Court. This passage is flanked by coupled spiral iron columns, with relieved ornament on central bands. They support an upper open corridor immediately over the lower passage. Right and left of this passage are the two divisions of the Southern Court, covered by an arched glazed roof of wrought-iron ribs, which spring from the columns of the upper corridor to the walls on the other sides. The roofs have each a span of 40 feet, and are covered with iron and a lantern, 16 feet wide, having louvres on each side of it for ventilation, occupies the centres of both roofs.

At the far end of each division corridors run east and west from the upper corridor before referred to, and communicate with galleries beyond the flank walls of the court. These transverse corridors are carried by iron columns similar to those before mentioned. The caps are foliated, without being copied from the stock Corinthian patterns.

The whole of the columns stand upon pedestals, or rather the lower portions of the columns are knotted to resemble the moulded bases, and then covered with cement to form pedestals. The flank walls of the courts are pierced by a series of arched openings, with circular medallions in the spandrels, connecting the court with the rooms on either side of it. These arched openings are of the height of the columns which support the gallery. Each bay in the upper stage is subdivided by a Corinthian column, standing over the keystone into two flank arches. The height of the court is 18 feet to the springing of the wrought-iron ribs, 32 feet to the feet of rafters, and about 45 feet to the underside of ridge. The passage in the centre has ornamental gratings in the floor covering the warming pipes. The floor above is Fox and Barrett's iron and concrete fireproof flooring. The roof of the upper corridor is arched with raking rafters, similar in principle to the one on the outside.

A door in the centre of the floor at the far end leads into the Northern Court—a spacious and imposing apartment 110 feet square, without a column or pier of any kind, from wall to wall. Nothing obstructs the view of its great extent. The skill with which it has been roofed, without appearing heavy or oppressive, enlists our warmest admiration. At a greater space from all the four walls lattice girders, 10 feet high, run at right angles to each other. The ends of the girders rest on columns, so that they are supported quite independently of the walls. They meet in four strong iron standards, and thus divide the roof into nine compartments, all hipped, and glazed with Hartley's rough plate. The central compartment is 55 feet square, the four on each side of it 55 feet by 27 feet 6 inches, and those at the four angles 27 feet 6 inches square. Over the door, between the courts, the beautiful marble gallery, run on columns, of Santa Maria Novella, which was bought at Florence a few years ago by Mr. Robinson, and which at the time attracted no inconsiderable amount of public interest, has been permanently fixed. On either side of it workmen are building against the wall models of the famed doors of the Florence Baptistery.

The whole of the brickwork to these courts has been laid with Captain Scott's cement, and the walls are coated with the same officer's patent plaster, which is as cheap as ordinary plaster, and sets as quickly and is as durable as the best Portland cement. It is manufactured by Lee and Sons. There are eleven segment-arched openings on each of the side walls, thus extending the area of the court under the adjoining galleries. The floors are laid with asphaltic.

Retracing our steps, mounted by a staircase, and passing along the open corridors of the Southern Court, we enter the galleries at the eastern side of it. These are two in number, placed parallel to each other, with an open arcade between them. The light in these galleries is admirably arranged. An ordinary glazed roof seems to cover them, but by means of

longitudinal beams between the tie-beams the ceiling is divided into compartments. The central portion is glazed by flat sliding masses filled with ground glass, whilst ornamental iron panels, through which a subdued light enters, is introduced into the side compartments. These are divided one from the other by foliated concave trusses, which rest on the imposts of the arcade, and about upon the tie-beams. The galleries are beautifully proportioned, and, as we have said, admirably lighted, whilst the small amount of decoration is most judiciously disposed. We have seldom seen better modelling or casting than that shown in the trusses, and the iron ventilating panels have also a decided artistic stamp upon them. This is due, we believe, to the personal superintendence of Mr. G. Sykes, now attached to the Department of Science and Art, and formerly master of the Sheffield School of Art. The floor is Fox and Barrett's. These upper galleries are warmed by means of a hot-water circulation, at intervals of some 30 feet, from between iron joists, and the warming pipes supported by iron cradles fixed between them.

To the east of the North Court, on the same level as those we have just mentioned, four new galleries will eventually be built, but one only is at present in course of erection, and that is insufficiently advanced to enable us to judge of its future appearance.

Taken together, these new works at South Kensington are highly creditable to Captain Fowke. He employs wrought and cast iron to great extent, and in a novel fashion, and, as we have said, is ever present in his mind the destination of his works. The efficiency with which he has warmed, ventilated, and lighted them is as conspicuous as the facility with which he disposes of huge girders, and introduces decorative novelties.

The works have been executed entirely by Messrs. Kelk and Co., of Mr. Coates is the clerk of the works. Messrs. Kelk's foreman is Mr. Poynton.

## WORKS ON THE LONDON, CHATHAM, AND DOVER RAILWAY.

THE works on the West-end Extension of this railway are of considerable magnitude, and consist of 4½ miles of cuttings and embankments, 1½ mile of tunnel, and 4½ miles of viaduct. The extension line is to be 1½ miles long, and is to consist of 1 mile of cuttings and embankments, ¾ mile of viaduct, a bridge over the Thames, crossing close to Blackfriars-bridge, making together about 4½ miles of line; a goods' station by the water side, and a passenger station at each end of the five miles. Some of the best portions of the works are in a more advanced state than those on the City Extension. Near the point of junction at Battersea about 60 acres of land have been secured, upon which a large number of coals sheds, and a semicircular building for housing 31 locomotive engines, are about to be erected. The uniformity in the color of the brickwork of buildings are in course of construction, in which suitable machinery will be fixed for manufacturing engines and other rolling stock for the railway, on a similar plan to that adopted at the Wolverton establishment of the London and North Western Railway Company. Some of the best portions of the works are in a more advanced state, and with the present rate of progress the whole will be completed in the course of a few months. A portion of the main line from its junction with the Pimlico line has been laid out for one-third of a mile to the point where the viaduct commences. The greater portion of the brickwork is complete between that point and the intended station at Dulwich, and the whole of this work is expected to be completed, and the iron girders erected over the roads, streets, and highways which the line crosses, in about nine weeks. The brickwork of this portion comprises a viaduct of 17 arches adjoining the Wandsworth-road, a viaduct crossing the Clapham and Bedford roads about 1,000 feet in length, and a viaduct at the Manor-rise on the Brixton-road of 1,000 feet in length, making together 3,110 feet of viaduct. These viaducts for the greater portion of their length are constructed on a circular plan and have been recently erected. The uniformity in the color of the brickwork, and the workmanlike manner in which they are put together, form a striking contrast to many other works for a similar purpose. Of the works on the City Extension line, which branches from the West-end Extension line at the Dulwich junction, there is now completed upwards of a mile and a half of viaduct along the back of the gardens and houses in the Camberwell and Walworth-roads. About half the length of this viaduct has been ballasted, and the permanent way is being laid down. This viaduct is advancing at the rate of 60 feet in length daily, and is expected to be completed to a point near the Elephant and Castle in about eight weeks. The brickwork on this extension is also of the same good quality as that on the West-end line.

The works for the main line beyond Dulwich towards Beckenham junction are in course of construction. The chief work on this section is a tunnel upwards of a mile and a quarter in length, passing, as before stated, under the Sydenham Hill and the Brighton Railway. Seven shafts have been sunk from the top of the hill into the tunnel, and the excavation is carried on to the full size in both directions from each shaft, making 14 faces to work upon, and thus facilitating the progress very materially. About one-fourth of the tunnel has thus been completed, and the average progress of the tunnel is at the rate of 30 feet per month. So soon as a short length of the tunnel has been excavated to the full size, the bricklayers are set to work, and that portion so excavated is completed before any further advance in the excavation at that point is made. The operation, as in the case of the brickwork for a further length, is carried on in the thickness of the brickwork varies from 10 to 14½ feet, according to circumstances; the bricks are of the hardest kind, manufactured on the spot in great quantities by means of powerful machinery. All the bricks used are very hard and compact, and some of them, made by one machine in particular, are sufficiently formed, very solid, and presenting a polished surface of excellent color. It often happens that in the course of a fortnight the clay excavated and brought out of the tunnel is carried into it again in the shape of solid hard bricks. The improvements and experience of the past 30 years, have been brought to bear in providing facilities for the construction of the works on these metro-political extensions, and the result has been much greater than was anticipated. There are at present about 2,000 men and 300 horses employed upon the works.

## THE PROPOSED NEW MUSEUMS AT CAMBRIDGE.

IN connection with the proposal long under consideration to provide additional Museums and Lecture-rooms, the syndicate appointed in 1853 to confer to confer with Mr. Salvin, and to instruct him to prepare suitable designs, have now reported to the senate, that—

"In their report, dated 31st December, 1853, and confirmed by the senate 8th February, 1854, the syndicate recommended that the lecture-rooms, museums, and laboratories which appeared to them to be necessary to meet the requirements of the university, and they indicated the character of the buildings which it seemed advisable to adopt. In accordance with the recommendations of this report, Mr. Salvin prepared a plan and estimate, and has, ever since the difficulties attending the requisite funds, no steps were taken towards carrying it out. At the beginning of the present year a syndicate was appointed to examine the funds available for university buildings, and in consequence of their report various sums of money and stock, with the accruing profits thereof, besides an annual contribution of £1,000 from the university chest, were by grace of the senate, 25th April, 1861, specially set apart as a fund for the erection of new museums and lecture-rooms; giving a total which may at present be estimated at £27,000, and may be expected before the completion of the works to amount to upwards of £30,000.

Funds having been thus shown to be available for the commencement of the work, Mr. Salvin's plans were again taken into consideration, and it appeared that for various reasons it would be desirable and necessary to make many changes in the disposition of the buildings. The professors were requested to revise the statements of their respective requirements, upon which the former design had been founded, and Mr. Salvin has, at the request of the syndicate, and in accordance with these instructions, prepared an entirely new set of plans, accompanied by the estimate which will be admirably arranged, and in every way to fulfil the various and complicated purposes for which they are designed. They are now submitted to the senate for their approval.

## ESTIMATE.

	£	s.	d.
1. The building with front towards Freshchill-lane, containing two large lecture-rooms adapted to the requirements of the theological and literary professors.....	6,383	5	0
2. The central group of buildings, containing lecture-rooms for the Plumian, Lowndean, Lucasian, and Jacksonian professors, and for the professors of anatomy, mineralogy, and botany; rooms for philosophical apparatus, and private rooms for the several professors; museums of comparative anatomy, zoology, mineralogy, and botany, and gallery for optical experiments, &c.....	19,092	6	0
3. Additional building for the chemical department.....	400	0	0
	26,475	11	0

The above estimate is exclusive of the architect's commission and the salary of the clerk of the works. It is somewhat higher than that prepared by Mr. Salvin in 1854 for the completion of the plan then designed by him, but the difference is accounted for by the greater extent of the buildings, and the cost of the deep foundations and complete draining of the site, which were not included in the former estimate.

The syndicate, comparing this estimate with the amount of available funds above stated, are led to conclude that the principal part at least of the above-mentioned works may be commenced immediately; but as it may not be found advisable at once to complete the whole, they recommend that tenders be obtained, under the direction of the syndicate, and subject to the approval of the senate, as follows—

1. For the completion of the whole works.
2. For the completion, separately, of the building in Freshchill-lane, containing the two large lecture-rooms.
3. For the completion, separately, of the central group of buildings.
4. For the additional building of the chemical department.

The syndicate beg to accompany their report with a detailed account of Mr. Salvin's plans, by Professor Willis.

(Signed)

GEORGE PHILLIPS, V.C.

W. WHEWELL.

H. W. COOKSON.

JAMES CARTMELL.

W. MILLER.

R. WILLIS.

G. G. STOKES.

F. FRANCIS.

JOHN LAMB.

The following is a description of the designs, prepared by Mr. A. Salvin, in conformity with the instructions of the lecture-room syndicate:—

The proposed buildings are arranged about a quadrangular court, 134 feet from the north to south, and 114 feet from east to west, and occupy about three-fifths of the old botanic garden. The outer walls of the quadrangle are separated from the irregular eastern and western boundaries of the garden by a space of about 40 feet in breadth, and are in closer proximity to the northern boundary, but the south front is 134 feet from the boundary, leaving space sufficient for a future building in that street if required. This front consists of two square masses or towers connected by a lower building, having a carriage archway in the centre. The western tower has the lecture-room of the Jacksonian and the botanical professors on the ground floor, and that assigned to the Lucasian, Plumian, and Lowndean professors above.

The apparatus-room and private room of the Jacksonian professor are contained in the lateral one-storied appendage on the west side of the tower; and the apparatus and private rooms of the Lowndean and Lucasian professors extend along the upper story of the intermediate building. The lower floor of which is occupied by the museum of philosophical apparatus.

The natural sciences are disposed in the remaining three sides of the quadrangle, human anatomy excepted, which is retained in the buildings especially erected for its reception. Chemistry occupies the east side of the quadrangle. In the new quadrangle botany is placed on the ground floor of the west side, in continuity with the lecture-room which it shares with the Jacksonian professor; mineralogy on the first-floor, having its lecture-room at the north end. Comparative anatomy occupies the east side of the quadrangle, with a museum on a single floor, of which it is proposed at present to erect only about one-half. Its lecture-room, dissecting-rooms, &c., are placed on the

The plans will be suspended to the council chamber of the Fitzwilliam Museum for the inspection of the members of the senate.

ground floor of the eastern tower, and in the lateral one-storied building which corresponds to the Jacksonian appendage at the other extremity of the facade. Above the lecture-room of comparative anatomy is the zoological museum. The north side of the quadrangle is reserved for geology, whenever it may be required for its present position, and for the museum of comparative anatomy. Thus the natural sciences of botany, mineralogy, zoology, comparative anatomy, and zoology, will be placed in a connected series of museums.

The theological and literary professors—many of whom require neither museums, laboratories, or other appendages to their lecture-rooms, except a small private room, are located in a detached building at the entrance into Freshchill-lane. This building contains two lecture-rooms, one on the ground floor, 30 feet by 92 feet, which will seat 350 persons; and another on the upper floor, 40 feet square, capable of accommodating more than 400 persons. There is also a spacious double staircase to the latter lecture-room, and an entrance corridor which leads to the buildings of the principal quadrangle. Beyond this corridor, on the left hand, is a building which projects from the north end of the quadrangle. Its ground floor contains rooms for a porter or keeper of the buildings, besides the rooms for the mineralogical and zoological museums.

It must be remarked that any of the lecture-rooms in the building may be employed as examination-rooms, by the contrivance of applying desks in front of the rising benches.

The report of December 31, 1853 recommended that "the style of the buildings be as plain as possible, and the material brick; that there be no unnecessary expenditure upon architectural decoration; but that the architect be requested to display his skill rather in the perfect adaptation of the various departments to their use, and in their convenient juxtaposition." &c. Accordingly, the only portions of the proposed buildings which are to be decorated, are the two towers, which are employed as the south front facing Pembroke-street, and the west front in Freshchill-lane. These are designed in a simple and suitable Italian style, capable of being carried out in brick with stone dressings. The remainder of the buildings within and without are of the quality of the quadrangle.

The apartments respectively assigned to the professors have been arranged in conformity with written reports of their requirements, originally furnished by these gentlemen at the request of the syndicate, contained in the report of December 31, 1853, and which are now submitted to the senate. It remains to explain in detail the manner in which these requirements have been embodied in the present plan.

The Lucasian professor is placed at the south-west corner of the upper floor of the building. His staircase leads to a western or southern outward wall, in each of which is a window especially formed for the reception and management of a heliostat. The one in the west wall corresponds to an opening or horizontal trunk through the rising seats, by which the solar ray may be directed upon the lecture table. The remaining windows are provided with ordinary glass, and may be conveniently closed when the lecture demands a greater light. Continuing to the east wall of the lecture-room are two rooms, one for private study and delicate apparatus, the other for the storage of frames and unwieldy lecture apparatus. Both of these are lighted from the south, and the windows of communication to the staircase are lighted from the north. The solar ray may be transmitted into them if required. The rooms have also a separate entrance from the staircase without.

A loft for optical experiments is arranged in the roof of the western range. It contains a gallery or screen extending from the north end to the south end of the staircase at the south end of that range. A ray of sunlight received upon the mirror of a heliostat placed at a window in the south wall of the lecture-room, is transmitted directly through an opening in the north wall, and thence over the staircase into the gallery, and thence to the screen. The distance from the north gable of the gallery is 230 feet. Near the north extremity of the gallery its width is increased, by a transept in the roof, for the convenience of arranging apparatus. Access to the gallery is obtained by a flight of steps from its southern extremity, which descends to the landing of the lecture-room stairs, and thence to the rooms of the Lucasian professor. In consequence of the difference between the height of the museums in the western wing, in two stories of 12 feet each, and of those of the lecture-rooms, which are 20 feet high, the floor of this optical gallery is only 6 feet above that of the Lucasian apartments.

The lecture-room of the Lucasian professor is also assigned to the Plumian and Lowndean professors of astronomy, and three rooms, lighted from the south and connected with the lecture-room by doors opening into a short passage, are intended for the private rooms and lecture-rooms of the Lucasian professors, respectively, and for a common apparatus room.

Upon the roof of the lecture-room tower a clear flat unobscured plane, 15 feet square, surrounded by a parapet, is constructed, which is reached by means of a staircase leading to the lecture-room. The frame may be raised or lowered, and the lecture-room tower into two portions, is carried up to the level of this platform, so as to serve as a foundation for two storey slabs upon which astronomical instruments can be placed for students' practice in observation.

The apparatus room is placed in the upper story of the lecture-room of the same dimensions as that which he at present occupies in the old building, and in addition with a private room that may be used as a workshop and unpacking-room.

The Museum of Philosophical Apparatus is placed on the ground floor of the central portion of the facade. Three rooms, of a total length of 80 feet, are assigned to it, and it is conveniently accessible from the Jacksonian lecture-room, and also by means of the staircase at the north-west angle, from the apartments of the professors on the upper floor. The apparatus is arranged in accordance with the report of the lecture-room syndicate, December 31, 1853, and is intended for the reception of models, machinery, and apparatus of all kinds that admit of being disposed in order for public inspection. It must be furnished with glass cases and other convenient fittings, in which the various apparatus which are suitable for public inspection, and which may also serve for the reception of such instruments of philosophical research as may become the property of the University by gift or purchase.

The Botanical Museum occupies the greater part of the ground-floor of the western side of the quadrangle. It consists of two rooms, respectively 62 feet and 35 feet long and 24 feet broad, lighted by windows on the west side. Its entrance is at the north end. At the south end is placed the private room, unpacking-room, &c., of the professor, which is in communication with his lecture-room, held in common with the Jacksonian professor.

The upper floor of this side of the quadrangle is appropriated to the mineralogical professor. His museum is placed in two rooms, each 68 feet long and 24 feet high, with windows on both sides. His lecture-room is at the north end of the museum. A staircase, constructed between the north boundary-wall of the ground and the gable of the building, leads up to a passage on the east side of the lecture-room and museum, and, by two doors, gives independent access to three lecture-rooms, and projects from the west side and contains the professor's laboratory, apparatus-room, and private room. The latter, from the peculiar nature of his observations, requires considerable length. It has at the west end a window with a bracket for a heliostat, the ray from which can be transmitted along a distance of 38 feet within the room, or beyond it through a door so as to reach the lecture table.

The lower story of this wing (partly fitted up as a porter's lodge) also contains a small laboratory for mineralogical students.

The Museum of Comparative Anatomy is placed on the eastern side of the quadrangle. It is 100 feet long and 40 feet broad, which, according to the professor's statement, will be sufficient to hold the present collection. Its position on the ground, however, admits of a future elongation to the extent of 80 feet. To facilitate this, it is proposed to construct the gable with a large archway, closed by a wall. Thus whenever the additional structure is completed, this wall can be readily removed, and the whole will be laid in one.

On the south of this museum is placed the lecture-room, 43 feet by 32 feet, in conformity with which is the professor's room, 21 feet by 18 feet; also a room, 30 feet by 15 feet, for dissections, mounting skeletons, &c.; a servants'-room, and a spare room for storing packing-cases, and objects in preparation for the museum. These rooms are contained in the lateral one-storied wing of the facade, and are all well lighted and are in communication with the back-yard on the east of the museum.

The room above the anatomical lecture-room is assigned to zoology.

It is proposed that the chemical professor should retain the present Jacksonian lecture-room, and also occupy the room now appropriated to the Jacksonian professor, as well as the rooms to the north of it which were erected for chemistry in 1850, and that these should receive the addition of an upper story to the north of the lecture-room, with other necessary alterations, to adapt them to the present state of the science, and for the reception of students in practical chemistry.

The designs are contained in the following plans, sections, and elevations, drawn to a uniform scale of 8 feet to the inch.

1. Ground-plan of the whole site and of the proposed buildings. This includes the existing lecture-rooms, &c., at the south-east angle, the walls of which are distinguished by a dark tint, and the proposed alterations in them by a pink tint.

2. First-floor plan of the buildings. Freshbrook-lane, containing the great lecture-room; the ground-plan of this is included in No. 1.

3. Plan of the upper story to be added to the existing chemical buildings, for a students' laboratory.

4. First-floor plan of the buildings of the quadrangle.

5. Longitudinal section of the south range, including the Jacksonian and Lucasian lecture-rooms, with the platform for astronomical observations on the roof over them, the museum of philosophical apparatus and the private and professor's rooms; the professor's above it, the lecture-room of comparative anatomy and the museum of zoology.

6. Transverse section of the west range, including the lotanical museum, the mineralogical museum, and the optical gallery in the roof.

7. Longitudinal section of the west range, to show the relative levels of the above museum and gallery to the Lucasian lecture-room, and the manner in which the solar ray, indicated by the red broken line, is transmitted through the openings in the walls of the lecture-room into the gallery.

8. Plan of the optical gallery.

9. Elevation of the south front.

10, 11, and 12. West elevation, east elevation, and transverse section of the building in Freshbrook-lane.

13 and 14. Block plans to explain the general distribution of the buildings.

## LONDON ASSOCIATION FOR THE PREVENTION OF STEAM BOILER EXPLOSIONS.

A prevention of steam boiler explosions has been the object of the raising and use of steam. A similar institution has existed for six years in Manchester, under the presidency of Mr. W. Fairbairn, who we learn, is also the president of the association now forming, and during that time a very large number of boilers have been submitted to the inspection of the officers of the association.

It appears from the published rules that the district to which the operations of the Association shall extend shall be that part of England south of a line drawn across the country from east to west, through and including the towns of Yarmouth, Rugby, Warwick, and Aberystwith.

That the members of the Association shall consist of subscribers to the funds of the Association, and shall be divided into two classes:—1. Persons who own steam boilers under the inspection of the Association. 2. Persons who do not use steam boilers, or do not place them under the inspection of the Association.

That an annual meeting of the members (consisting of not less than ten members) be held in the month of January each year, at which they shall elect a president and committee for the management of the business of the Association.

That the expenses of the Association be met by an entrance fee of two guineas, and an annual subscription from all members of one guinea; and from members having boilers inspected by the Association, an annual subscription for each boiler in regular or occasional use, upon the works of the member, according to the following scale of charges:—

1 boiler . . . 30s. per year.	6 and 7 boilers . . . 10s. each per year.
2 and 3 boilers . . . 35s. per year.	8 and 9 boilers . . . 15s. each per year.
4 and 5 boilers . . . 40s. per year.	10 and above . . . 17s. each per year.

That the entrance fund be, as far as possible, reserved by the committee for the purpose of promoting such experiments and investigations as may tend to throw light upon the causes of boiler explosions, or may otherwise promote the objects of the Association.

That the duty of inspecting the boilers and steam-engines of the members,

and all apparatus pertaining thereto, be discharged by one or more competent engineers, aided by a sufficient number of local inspectors, to be appointed by the committee.

That it shall be the duty of each engineer to give to the members, free of cost, information and advice with respect to the various forms and constructions of boilers, steam-engines, and all apparatus appertaining to them, so as to guide the members to the safest and most economical means of raising and using steam.

That the duty of the inspectors shall be to visit periodically, under the direction of an engineer, the steam department in the establishments of the members in their respective districts, to examine the boilers, safety-valves, feed apparatus, and other parts on which safety depends; and, when ordered by an engineer of the Association, to note the steam pressure and consumption of fuel, and to report the information obtained in writing to him.

That in all cases of inspection, by an engineer or by an inspector, a report in writing, signed by the engineer or inspector, and countersigned by each member whose works have been so inspected, specifying the facts and results, with such remarks as those facts suggest.

That the facts and practical results obtained in the course of inspection shall be classified and recorded in books open for the inspection of members at the offices; but in all such records each firm shall be designated by a number, and the names of firms shall only be given with their consent.

It is pointed out that the members and promoters of the Association are not to derive any pecuniary benefit from its operations, but have solely in view the promotion of an object of great public importance.

It is worthy of note that Mr. Fletcher, Chief Engineer of the Association at Manchester, lately examined 315 engines and 436 boilers, 6 of the latter being examined specially, 8 internally, 22 thoroughly, and 400 externally, in which the following defects were found:—Fracture, 25; corrosion, 25 (3 dangerous); safety-valves out of order, 10 (2 dangerous); water-gauges, 9 (3 dangerous); pressure-gauges ditto, 6; feed apparatus ditto, 3; blow-off cocks ditto, 40; fusible plugs ditto, 1; furnaces out of shape, 10 (5 dangerous); deficiency of water, 2; over pressure, 4; boilers without safety-valves, 1 (dangerous); total, 110 (11 dangerous). Boilers without glass water-gauges, 18; ditto without pressure-gauges, 10; ditto without blow-off cocks, 9; ditto without feed-back pressure valves, 30.

Now that steam power is being so largely introduced into workshops and manufactories, such an Association properly conducted cannot fail to be attended with beneficial results. We have only a doubt as to the rules of fees, which may deter some from availing themselves of the services of the officers of this institution.

## THE OBSTRUCTION AT THE EUSTON AND HAMSTEAD ROADS.

SIR.—The inhabitants of the neighbourhood of Tottenham Court-road are very much exasperated in the manner in which the obstruction at the corner of the Euston and Hampstead roads is being re-erected; the old house has been for years a great nuisance to the neighbourhood, and particularly so to persons waiting for the omnibuses. That such an opportunity should be allowed to pass away without setting the house back to its proper place (in a line with the others in the row), has caused the loudest complaints from the people living in the neighbourhood which we now hear, it being the opinion generally that the house should have been set back to the general line of frontage. There is some talk of petitioning the magistrates not to grant a license to the new owner, should such a proceeding would justify merit the approbation of all lovers of order and improvement.

### AN INHABITANT OF THE NEIGHBOURHOOD.

WARM CLOTHING.—It is a mistaken idea to suppose that fabric made of coarse wool are the warmest and most durable. Owing to the low prices of coarse wool, fabrics of this material are usually made heavier than those of fine wool, hence their greater thickness deceives persons respecting their qualities for warmth and wear. There is no heat in the wool itself; its property of what is called "warmth" is due to its non-conducting qualities. If we grasp a bar of iron on a frosty morning it produces a disagreeable cold sensation, because it is a good conductor of heat, and the warmth of the hand is rapidly carried off by the metal. On the other hand, a piece of woollen cloth, especially if it has a nap, does not conduct heat so readily, and it is good for the reason that it prevents the heat passing rapidly from the hand. Now the warmer fabric for clothing is that which is the best non-conductor, and Count Rumford made a great number of experiments with different materials in order to find out the best. According to his observations the down of the goose and the hair of the Equimaux use in their clothing, is unrivalled in this respect; and the finer the fabric of woollen cloth used, the more imperfectly did it conduct the heat from the human body. As fine woollen cloth is superior to that of coarse wool as a non-conductor, it is therefore the best for the purpose of preventing the heat from passing rapidly from the body to the cold weather. We are also positive that cloth made of fine wool equal in thickness to that manufactured from the coarser material will wear much longer. The finest woollen cloth, although dearest at first, is cheapest in the end, because it is more durable and warmer; and, according to Leibniz, no material such as so much meat gains.

It must not be overlooked, however, that there may be a very great difference between what is called "firm cloth" and cloth made of fine wool. Fine wool feels pleasant and soft to the touch, and it has a rich velvety appearance. There has been a great demand recently for coarse wool, because it is so much more comfortable in the winter months, and every effort should rather be made to obtain plenty of cheap fine wool, because it is the warmest and best for clothing.—*Scientific American*.—A patent has lately been taken out for the manufacture or production of various waterproof articles of wearing apparel, in such a manner that they may be composed of leather and cotton, and yet be so constructed that the perspiration or exhalations from the body, while at the same time water is effectually prevented from passing through the garment. This is effected by perforating the garment or article in various parts, and adapting to each of these perforations a short tube, which passes upwards inside the garment or article.

## THE EXAMINATIONS AT SOUTH KENSINGTON.

WE give the following from the examination papers just issued by the Science and Art Department at South Kensington.

Subject I. *Geometrical Drawing.* Subdivision II. *Mechanical and Machine Drawing.*—Examiner, Professor R. BRADLEY.

## MECHANICAL AND MACHINE DRAWING.

N.B.—Where no scale is specified it is left to the candidate's judgment, but in every case he must specify the scale he employs. As ample time is allowed for the drawings the candidate is to make, they must be carefully finished and shaded sufficiently to express the forms. No credit will be given for any drawing not strictly complying with the conditions of the question.

Section I. and Section II. refer to the accompanying rough figured sketch (intentionally out of proportion) of a crab or windlass, the candidate to make at 1: the drawing specified in either of those sections, but not more than three from sections I. and II., and one only from each of the other sections.

## Section I.

1. A front elevation.
2. A side elevation.
3. A plan.

## Section II.

1. A segment of the wheel comprising about six teeth and one complete radius.
2. The pinion, with a side elevation of it.
3. A vertical section of the whole machine perpendicular to the axis of the cylinder.

## Section III.

1. Show by a section the double action pump and valves for a common air-pump.
2. Draw the plan and section of a stage for a microscope, with slow motion adjustments in two directions; the slips to hold down the object-slides to be shown.
3. Draw the plan and section of the compass, and box hung in gimballs, in a binacle. (The "compass" on the card need not be drawn.)

## Section IV.

1. Show in skeleton outline, in three of its positions the grasshopper parallel motion for a marine-engine.
2. Draw to its full size the eight-sided nut with its washers and part of the bolt for holding down the cap on the brasses of the paddle-axle of a highly finished marine-engine of 400 horse-power.
3. Show by a plan and section the solid conical axle, with its socket, collars, flanges, &c., on which a 30 feet turntable moves. Scale, 1.

## Section V.

1. Show the arrangement for reversing the motion of the table of a planing machine or printing press.
2. Show by a plan and elevation, or section, the slide-rest of a lathe for heavy work.
3. Show by an elevation the strike work of an eight-day clock.

Subject I. *Geometrical Drawing.*—Subdivision II. *Mechanical and Machine Drawing.*

## MECHANICAL AND MACHINE DRAWING.

Subjects of pencil outline drawings of which two only are to be made by any one candidate.

1. Show some combination of levers by means of which an enormous pressure can be suddenly applied at one point resulting from a moderate force applied at another.
2. A, B, C, representing equal circular disks, show how C can be made to perform 100, and B 10 revolutions, while A makes 1.
3. Show how the action of a clock-wheel on the train may be maintained while it is being wound up.
4. Show how two pieces can be so attached that a thin blade may pass entirely through their junction without separating them.
5. Show how the motion of a locomotive is reversed by means of two eccentrics on the axle of the driving wheel, the eccentrics being connected with the ends of curved bar grooved.
6. Show some combination for producing a very perceptible motion from an imperceptible one, as, for example, in the aneroid barometer or in Daniell's pyrometer.

Whatever detail is shown in these figures must be drawn in a workmanlike manner.

Subject I. *Geometrical Drawing.*—Subdivision III. *Building Construction.*

## BUILDING CONSTRUCTION.

Half the ground plan of a double cottage for two families is given; the two cottages to be precisely alike. The building to be two stories high, the front upper room to be divided into two by a deal framed partition, each room to have a separate entrance, and small sash window, and a small fireplace in two upper rooms.

The ground floor to be 9½ feet high in the clear, floored on joists, 6 feet by 2½ feet resting on dwarf walls, the earth to be 2½ feet below the under side of the floor, and to be kept dry by open gratings. The walls to be two bricks at foundations, and carried 1 foot below the lowest part of excavated ground, the level of the floor being 15 inches above the external ground.

The walls to be one brick thick above the lower story, carried to the height of 4 feet above the level of upper flooring boards, which are to be on joists 9 feet by 3 feet. The roof to be a simple A; tiled, rafters 6 feet by 2 feet, 16 inches apart with tie-beam, but no king-post; along angle-ties at hips, tiles on battens, all the dwelling rooms to be celled, iron-rod back paved with Yorkshire stone, level of pavement 6 inches above ground laid on dry brick rubble, a small copper and sink, window over door.

The drawings specified in Section I. and Section II. are to be made all to the same scale as that of plan. Every drawing to be correct in details and tinted to show the materials, but no candidate to make more than three drawings from these sections, selected at his own pleasure, and only five altogether.

## Section I.

1. A front elevation of both cottages.
2. A plan of the upper story.
3. A cross section on AB (of one cottage only).

## Section II.

1. A plan of the roof, to show that over the stairs and the mode of getting entrances to the upper rooms from the landing place.
2. A section on the line CD.
3. A sectional-elevation on EF.

## Section III.

1. Give a design for the truss for a roof of 60 feet clear span, rise 20 feet, tie-beam scarfed, a gallery down the middle 15 feet broad and 6 feet high, the flooring hereon, or on bridging joists carried by the tie-beam, galleried lighted by dormer windows, roof slated on boards with felt covering between gutters and parapet. Scale, 1/4".

2. An isometrical projection of the connection of the queen-posts, tie-beams, braces, &c.; the double queen-posts and tie-beams halved together with the braces between, showing the iron ties, straps, &c. Scale, 1/4".

3. The scarring of the tie-beam shown by plan and elevation, or by one isometrical figure. Scale, 1/4".

## Section IV.

1. Give a plan of a circular angle-turret 7 feet internal diameter with stone walls in segments 10 inches, 8 inches, and 6 inches thick. An external gallery 18 inches wide with parapet wall 4 inches thick, and 4 feet high; floor of the whole 5-inch stone slab in pieces not less than 20 feet area each, dovetailed together; a small stove, two doors and two windows; the whole carried on stone corbels on a corner wall 3 feet thick. Scale, 1/4".

2. A section to show the corbels and their jointing and cutting through the door, fireplace, or window. Scale, 1/4".

3. A drawing of the timbers of the conical roof, with projecting eaves over gallery, roof loaded on boards.

Subject I. *Geometrical Drawing.*—Subdivision III. *Building Construction.*

## BUILDING CONSTRUCTION.

Questions to be answered in writing, and subjects for outline drawings in pencil by the candidates for certificates in Building Construction.

N.B.—No candidate to answer more than four questions in writing, nor to make more than four drawings or sketches in illustration of, or in addition to, those answers.

1. State what, in your opinion, was the reason for making the brick in the proportion of 1: 2: 4; and why was it not made twice or more as large as it is now.

2. Give a sketch, to scale, of the bond at the angles of walls of 1, 1½, 2, 3, 4, bricks thick, respectively.

3. Why is an inverted arch turned under the openings in all large buildings?

4. Give a design for a cornice to a building made of common bricks and tiles.

5. State the constituent materials and their proportions of good mortar, and why are road scrapings with all its impurities allowed instead of clean pit or river sand, formerly insisted on in contracts, and why was sea sand prohibited?

6. Give a drawing to scale, of one course of the solid masonry of a lighthouse of 20 feet diameter, built on a rock.

7. State how you would secure the foundations of a lofty building erected on a clay soil with a dip strata.

8. Make a section, to scale, of a brick drain 3ft. wide and 5ft. high, and show the fall you think it ought to have.

9. State the reason for mortising the bridging joists into the sides of the girder in floors instead of notching them down on the top.

10. Make a section, to scale (1/4"), of the timbers of a floor of 35ft. span.

11. State your opinion of the best mode of strengthening a girder 40ft. long and 12 in. × 11 in.

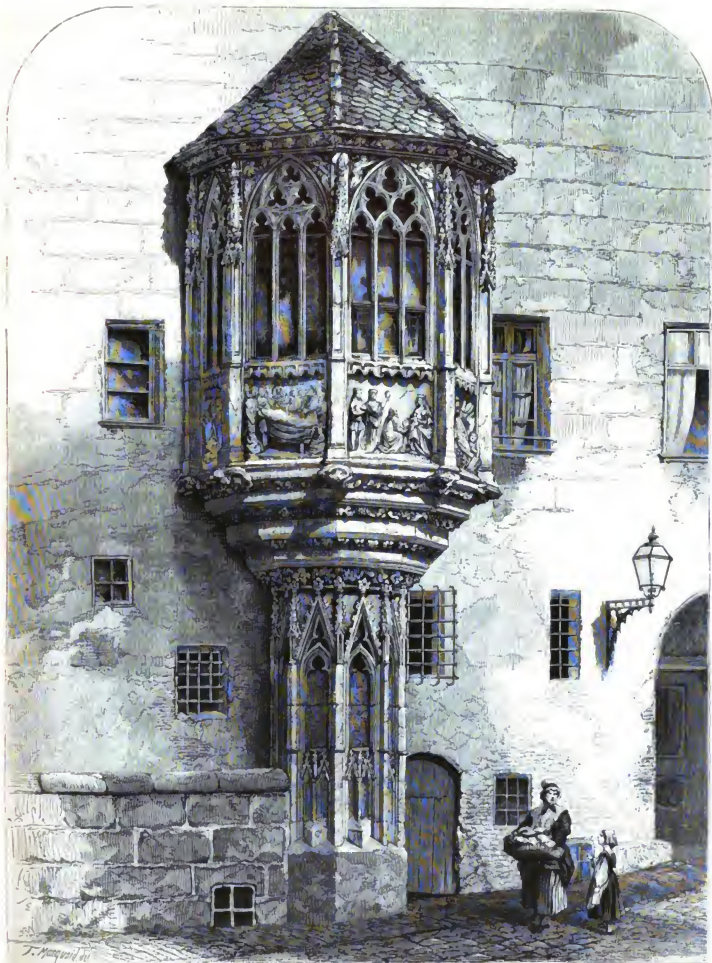
12. Give a drawing, to scale, of a sash frame with boxings and shutters, linings and architrave, for a good house.

## INDIAN RAILWAYS.

THE Engineer reports that, at the meeting of the proprietors of the Bombay, Baroda, and Central India Railway, the Chairman remarked that, owing to the excellence of their gradients, they had conveyed large numbers of goods, forty-one passenger trains, and forty-one freight trains, and forty-one passenger trains, and forty-one freight trains respectively, each drawn by one engine. The construction of the iron bridges on their line had been looked upon as experimental to some extent, but it now appeared that they were perfectly sound. The first work of the line—the Narbadda bridge—had been completed and opened in May last. It consisted of sixty spans of 60 feet each, and was 70 feet above the bed of the river. During the monsoon the floods in the river rose 50 feet, and had a velocity of ten miles an hour. Owing to this the river bed of the soil it would have been scarcely possible to have built piers of masonry in such a position, but the screw-pile system of forming them, adopted by their consulting engineer, had answered admirably. They had also been successful in the easy gradients of their line, for they had conveyed 4,000 persons in a train weighing 280 tons, drawn by only one engine, on the occasion of the Hindoo holidays, but he would ask Colonel Kennedy, their consulting engineer, to explain that to them.

Colonel Kennedy, the consulting engineer, said, when he first proposed his plan for overcoming the difficulties of crossing the great rivers it was considered in the light of a hazardous experiment, but the plan was founded on the most careful analysis he could make. He knew that some special and extraordinary means must be taken in order to carry out the project. It was thought absolutely impossible to construct a railway in that direction, and he believed it would have been impossible by the ordinary means. The other object he had in view was to reduce the dead weight of their trains as much as possible by getting the most favorable gradients. It was rather difficult to avoid having steeper gradients in those directions, and they did avoid them. The steeper the gradients on a line the shorter would be the train to ascend them, and the less effective would be their engine power. He then pointed to a diagram in the train on English lines had been drawn at twenty miles an hour over their line by one engine, which showed the advantages of their level line. He could have easily found gradients of 1 in 100 on their line, and had some difficulty in avoiding





Oriel Window at Nuremberg.



## ON THE CONSERVATION OF ANCIENT ARCHITECTURAL MONUMENTS AND REMAINS.\*

IT may, perhaps, appear that I should offer some apology for occupying your attention this evening with a subject at once so trifling and so unimportant as that which I have chosen for my paper. If so, I would say in reply that it was intended for our opening meeting, and that those meetings seem to me to demand, as the leading subjects to be discussed at them, matters of vital importance to our art, rather than of an amusing or highly interesting character, and that I hold the subject I have chosen to be, however trite, one of the most pressing importance.

I assume as my starting-point that every member of this Institute appreciates the immense value to any country which possesses a history and a civilisation, of the monuments and remains by which that history and civilisation are illustrated.

The value of such monuments of the past is great in relation to which illustrate the rise and development of a special style of art; still more so, when that style of art is one of great antiquity and interest, and yet more than all when it is one which has proved worthy of revival and re-development.

Those among us whose taste and education have led them to a more especial appreciation of the art of the ancient world, will feel how strongly these remarks apply to the precious monuments and relics of Greece and Rome, and of the countries over which their arts and influences extended. These illustrate a history and a civilisation the most wonderful in its character; they illustrate also the development of a style of art, the merits of which no one has ever presumed to question, and which has been revived and re-developed in more recent ages; and as a natural consequence, the study of these arts has become fragmentary or obscure, is searched out, delineated, and, when possible, protected and preserved with an amount of zeal and assiduity proportioned to their importance, and which does honor to that modern civilisation which so keenly appreciates and rejoices in that of the past.

Should not, however, the same feelings and the same care, zeal, and assiduity, be extended to the monuments of our own race and our own country? I have not a history as glorious and, to us, at least, as interesting as that of the great nations of antiquity. Have we not a civilisation as noble as theirs—and should not the monuments which illustrate that history and civilisation be as precious in our eyes as those of Greece or Rome?

Added, however, to the value which these remains ought to possess, in our eyes as Englishmen; they possess and *historic* claims parallel to those of the works of the great nations of antiquity. They illustrate the development (and especially our own share in it) of a style of architecture as marked in its character as theirs, and the means of which, though long neglected, are now becoming more and more known and appreciated, just as in the case of the Classic styles, led to its revival and re-development.

Let it be clearly understood that I am entering upon no controverted questions: I am instituting no comparison between the intrinsic merits of the two classes of art, or asking more than the *fact* of their revival. On all such questions we may hold our individual opinions, and yet may all agree to what I wish to lay down as the groundwork of what I desire to say this evening, that our architectural monuments possess claims upon our care and conservation entirely parallel to those of the great nations of antiquity—and that, of classical antiquity, but with these two preponderating points in their favor—that they are our own monuments, and that we are the parties responsible for their conservation.

I would next bring under your consideration the melancholy fact that, though our country is studded with these relics of the past, they are every year being reduced in number, and that those which remain are constantly subjected to the danger of destruction or deterioration from many different causes, among the chief of which I may enumerate—

I. Natural decay and dilapidation, which are greatly enhanced by the destructive climate to which they are exposed, and still more by neglect.

II. Willful destruction and ruthless mutilation, together with alterations suggested by the passing requirements of the day or by individual caprice.

III. The yet more destructive inroads of *ever restoration*. These three causes, or classes of causes, threaten, in a degree so imminent and so alarming, the existence, the integrity, and the authenticity of our ancient architectural remains, that I feel it to be high time that we, together with all local architectural and antiquarian societies, should take it into their serious consideration, both severally and jointly, what measures can be adopted to arrest the evil before it be too late.

Our ancient architectural remains may, for the most part, be classified under the following heads:—

I. More antiquities, such as Stonehenge, the Cromlechs, and many of the remains of Roman structures, though the latter often contain objects of art, as mosaics, pavements, &c.

II. Ruined buildings, whether ecclesiastical or secular, such as abbey, castles, &c., &c.

III. Buildings still in use, as churches, houses, inhabited castles, &c.

IV. Fragmentary remains embodied in more modern buildings, such as those which usually exist within the precincts of cathedrals, and often in old houses and country mansions, to which class may be added a vast amount of interesting and valuable fragments, mainly of domestic architecture, and often, though of a simple and even rustic character, of great practical value to the study of our old architecture, to be found among our country villages, and in the scattered houses of the farmers and the peasantry, as well as other miscellaneous remains.

On the first of these classes, that of a purely antiquarian character, I will not trouble you with any remarks, as I think that our antiquaries are sufficiently alive to their value, and exercise a wholesome vigilance in respect of them. It is not in general this class of ancient remains which is most in danger, though it behoves every one who has it in his power to do his very utmost for their preservation.

The second class, however—that of ruined structures—is one which demands much and careful consideration, and it is one towards which the salutary vigilance of our Institute and of kindred societies might, with great advantage, be directed.

The very condition of a ruin, of necessity involves liability to rapidly increas-

ing decay and the probability of speedy destruction; and it so happens that two great events in our history, the dissolution of monasteries in the sixteenth century and the dissolution of the monasteries in the eighteenth century, have reduced two important classes of architectural edifices to this hopeless condition.

As regards ruined castles, it fortunately happens that the massiveness of their construction enables them, in many instances, to offer a fair amount of resistance to the extent the simplicity of their construction affords them. Such is not, however, always the case, and I would most strongly press upon those who have the charge of these stern historical relics to guard them against the effects of decay and ruin upon their walls, and to cause the necessary repairs to be made at periodical examinations into their condition, and to advise their proprietors as to such timely works of repair and sustentation as may arrest the hand of time without tampering with their antiquity; and if their natural guardians refuse the necessary protection, to raise for their preservation the subscription fund for the cause.

When we come, however, to ecclesiastical ruins, the case becomes infinitely more pressing. Unlike the great works of defence just alluded to, these edifices were not erected with a view to resisting any but the ordinary causes of destruction, and are consequently subjected to decay and ruin in a comparatively brief time, and in principle, trusts for stability to the nice equilibria of arches and abutments, and pre-supposes the protection of a roof. It is, therefore, a matter for wonder that after more than three centuries of exposure, unroofed, and unroofed for, and though often used to supply materials for surrounding buildings, their ruined forms should in so many instances have reached us in the condition, which enables us in any degree to appreciate their merits or their design.

Happily, however, certain great numbers of them have ceased to exist, very many precious remains are left to us, and these, though the ground is for the most part, exhumed and almost unrecognisable, and the structures are for the most part, exquisite and highly finished architectural productions, equally valuable and equally beautiful with our glorious cathedrals; and in their own way, as art as classic and as perfect as the remains of antique art which we so much cherish.

Now, the two points to be considered are, first, can we expect these precious fragments to endure much longer; and if not, what can we do to promote and prolong the continuance of their preservation?

On the first question I fear the reply cannot be very satisfactory. Those who have for any considerable course of years been in the habit of revisiting any particular ruin, can scarcely fail to have observed how sensibly and how surely the course of decay, disintegration, and downfall has progressed, even where there is no direct mutilation or wilful destruction.

The decay of the surfaces seems to have of late years, redoubled its speed. I have revisited buildings, and particularly ruined buildings, where 30 years earlier I had been able to make minute sketches of delicate carrel work, and found the surfaces of the masonry and the carvings of the woodwork, and the surfaces of the moldings and carving covered with an ever-fresh pulverescence. If you visit a building in this exposed condition after a hard winter, you are sure to find fresh spots where the details have fallen off through the action of the frost in every recess and angle, and the surfaces of the moldings and carving are sure to find fresh spots where the details have fallen off through the action of the frost in every recess and angle, and the surfaces of the moldings and carving are sure to find fresh spots where the details have fallen off through the action of the frost in every recess and angle.

How could it be otherwise, when walls constructed of small stone and rubble work are exposed, with no protection but ivy and wall-plants, to the constant action of the most destructive of climates; when every shower penetrates the crumbling mass, and every frost has its full swing in its disintegration, and when the more solid stone, from being kept in a constant state of saturation with water, has every cause of destruction in full and continued operation upon it, and all this for centuries together?

Nor have these been the sole agents of destruction. Many, indeed the great majority, of our ancient abbeys and even some cathedrals, have been taken down for the value of their materials, and those which were left as ruins were, for the most part, spared more because there was no market for their material than for any care for their preservation; and it naturally follows that they would become the quarries which would supply all the petty buildings around them.

Perhaps the most remarkable case of this is at Rending, where the walls of the abbey have been stripped of their ashlar, both without and within, and the rubble masonry left; and such is its state of ruin, that the walls, though together in perfectly solid and compact masses; and where fragments of the tower long since fell they remain to this day, protruding from the ground at the same angle at which they first reached it, and look like masses of rock cropping out of the earth.

This has been continued in many instances up to our own day, and even now it is occasionally found in a certain degree to hold good, as at Easby Abbey, in Yorkshire, where the lower part of the buttresses appear to have been comparatively unimpacted and unruined, as being the part nearest the ground, and the stages, being out of reach, are left unsupported and dragging over the walls which they were built to stay.

For the most part, however, it is neglected and the want of timely care which we have now most to complain of, I heard the other day of a considerable portion of a ruined abbey in Norfolk falling into ruin, and the proprietor, a noble lord, who, I am sure, would have taken proper precautions had his attention been called to it by anyone qualified to give an opinion. The proprietors of these melancholy, yet glorious, remains, though valuing and caring for them as picturesque objects, frequently seem to have no other object in view than to prefer raising their falling pieces bit by bit to the trifling interference with their picturesque effect, which would be incurred by a little timely repair.

Now, what I wish to bring before you as the practical result of what I have been saying, is the absolute necessity for such reparations if we desire to have down these precious architectural relics to our own day, and to ensure that the nature of such reparations should be one may see the words of Mr. Ruskin:—

\* A paper read by G. O. SCOTT, Esq., before the Royal Institute of British Architects.

\* Take proper care of your monuments, and you will not need to restore them.  
 \* Watch an old building with an anxious eye; guard it as best you may, and as you grow old, and your eyes grow dim, point its stones as you would levels of a crown; watch watches about it as if the gates of a besieged city it held together with iron where it looses; it stays it with timber where it declines; do not care about the mistakes of the past, but be sure that the future shall be better than the present; and, lastly, and continually, and many a generation will be born and pass away beneath its shadow. Its evil day must come at last; but let it come decorously and peacefully, and let no dissonant and false note be heard in the funeral dirge of its memory.

\* Every branch of such restoration as—protection against the penetration of water into the walls; support, to prevent downfall, from the failure of foundations, abutments, or the sustaining work, whatever it may be; and, lastly (if such a thing be found to be practicable), the preservation of the architectural details by some indurating process which will arrest their decay.

\* None of these things, if judiciously carried out, can be so injuriously affect the picturesque quality of the ruin; and I need hardly say that they must be so done as in no degree at all to infringe upon the authenticity and genuineness of the work. The case is wisely different from restoration—protection and preservation being the sole objects.

It would, however, be dangerous even for such works as these to be carried out by ignorant persons. They demand the careful vigilance of the antiquary and the architect to see that the value of the remains is not injured.

It seems to me that there ought to be a kind of *Vigilance Committee* appointed for every district by our Institute, in conjunction with antiquarian societies, whether general or local; that these committees should not only themselves take every opportunity, whether collectively or by their individual members, of inspecting every architectural relic, but that they should also take public measures for inviting information and suggestions respecting them; that they should, from time to time, report to the proprietors of such remains, and suggest what restoration is needed; and that they should take measures for procuring funds when they are needed, and that they should be desirable to also obtain permission to direct what is to be done, and to have a veto upon anything which would be injurious.

For protection against the admission of wet from the top of the walls, much could be done by coating them roughly on the inside with a mixture of a concrete of cement and fine gravel; by re-setting loose stones in cement, by filling in with the same material cavities and open joints, cracks, &c., always taking care, so far as possible, to do this in a manner light, if at all, visible from below. In extreme cases, where arches and vaults are so decayed as to be liable to the length of erecting centres below, and rectifying them, and filling in the joints with cement.

When any large mass of a wall threatens to fall, shores should be applied, the foundations examined, and strengthened if necessary. Loose stones should be open joints filled, and, in very bad cases, bonded; but this should be done under the eye of a person who has a feeling for the work, both on its own account and as a piece of antique object, so as to avoid any unsightly tampering with the old work. The only cases where such measures are necessary are those in which the old work is insufficient for the weight they have to bear; in such cases they must be underbuilt, buttressed, or propped, in some way. Here it will be better to make the work rough, and of old materials, but in no degree to mask it, but rather to make it manifest that it is only added to sustain the original structure.

It is clear that in such cases it will be best to call in an architect, provided he is one who has an eye for the conservation of the work, and a full appreciation of the value of its materials.

I may here mention that the west front of Crowland Abbey, which threatened immediate fall, has been of late rendered, as I hope, permanently secure by the use of repairs such as those I have suggested, carried out under the influence of the Lincolnshire Architectural Society.

The importance of applying to the finer details a preservative and indurating solution, if such is to be found, is almost as great as that of the upholding of the masses; the pulverisation of the surface seems in many cases to be going on at a constantly accelerating pace, and threatens the speedy loss of the true forms of the mouldings and the sculpture. At Fountain's Abbey—perhaps the best cared for of all these remains—I have observed the constant degradation of the mouldings from this cause; if we could have them by such a process, it would be worth anything.

In the interior of Westminster Abbey I am gradually inducing the mouldeering stone in its present state, and securing it (as I hope) from further decay, and it is unnecessary to hope that a process will be found which will do the same for external work.

Besides, however, doing what is possible for the conservation of these invaluable remains, we ought also to see that there is no part of them which has not been thoroughly and carefully repaired and measured.

I think a society ought to be formed, or a similar effort made by different existing societies for the perfect delineation of our ruined buildings. A good deal has been done by Mr. Sharpe, Mr. Potter, and a few others, but the thing has never systematised.

Now that we understand and appreciate the value of the remains of our ancient architecture, it is a standing disgrace to us that we allow them to remain without perfect and authentic illustrations being made of the whole and of every part; and, where it can be done, such a process to be taken as will not endanger the tender and pulverising surface, casts should be taken and the original sculptured portion, which should be deposited in some permanent national collection, with a full description of the parts to which it belongs.

Photography might also be made much more use of than it has been, and should not be implicitly trusted to, on account of the uncertainty of its duration but, whatever the modes adopted, it will be monstrous if we allow the most valuable of our ancient architectural remains to become disintegrated and their finer details and individuality to be lost, and to be replaced by imperfect and absolutely inaccurate representations of every portion of them.

Let us prolong their existence to the utmost limit, but at the same time provide against their dissolution by perpetuating their designs in some intelligible form which will exist after the glorious originals have passed away or become unintelligible from decay.

I now come to the third class of ancient remains—buildings still in use. Here we come at once within the regions of controversy, of misadventure, and of regret; for here we have to do with the causes of destruction and deterioration—natural decay, neglect, violent destruction and mutilation, and the now so prevalent operation of *over restoration*.

I must beg, before I proceed, that I may be clearly understood, that, in any criticism I may express on the course followed by others, I do not wish or expect to exempt myself from equal blame where I deserve it. *We are all of us offenders in this matter; and to abstain from speaking plainly I too should be guilty of a course of sin.* I am not, however, concerned to point out those principles which one every day more strongly sees to be right, however conscious one is of continual departure from them.

In speaking of ruined buildings, I have fully and cordially adopted Mr. Ruskin's *restoration* as the only standard. It is clear that it is clear that this, however, cannot be strictly acted upon in dealing with churches and other buildings still use.

Viewing them solely as original architectural remains, one would desire, were it possible, to abstain from all but the most necessary repairs, and to be applied to them; but, in the first place, it is clearly wrong to treat the houses of God as mere architectural specimens to be stereotyped in their present state of mutilation and decay for our study and instruction; nor, if it could be proved right, would it be possible to convince the public that such a course should be followed; nor in the case of houses and other secular buildings, to induce people to inhabit and make use of ruins to gratify our sentiments towards them.

It may then, be laid down as an absolute certainty that buildings whose use is continued must be kept in or put into a soundly state of repair, and it is, therefore, both our duty and our interest, instead of opposing what cannot be prevented, to do our best to lay down laws for ourselves, and suggest them to others as guides in carrying out the works which of necessity must be done.

The great object, to start upon is to preserve the greatest possible amount of ancient work intact; never to remove a feature without necessity, but to preserve everything which is not so decayed as to destroy its value as an exponent of the original design; never to add new work except in strict conformity with the original design, and in the original form; never to alter the original work for the sake of making it conformable with new, never to "restore" carved work or sculpture, but leave them to speak for themselves; and, generally, to deal with an ancient work as with an object on which we set the greatest value, and the integrity and authenticity of which are matters which we view as of paramount importance.

These principles are, however, much more readily laid down than acted upon; so much so, that to one who holds them the process of restoration is one of continual disappointment, vexation, and regret, for, labor as you will to act up to first principles, innumerable hindrances stand in the way of their realisation.

Sometimes the case is found to be so utterly disintegrated that it is with the utmost difficulty—here a bit and there a bit—that you can trace out by laborious study what were the original details; and to attempt to keep these bits seems as hopeless as to preserve a body which falls to dust as you look at it.

Sometimes, when this is by no means the case, a barbaric builder, or clerk of works, or an over-zealous clergyman interferes in your absence, and destroys the work which you have so carefully preserved.

A conscientious representative having been blamed for incurring extras in a piece, makes up for it in another; by introducing, before one is aware of it, a sweeping clause, which condemns quantities of work one must most religiously to preserve; and, to increase or another, one is left finding one's intentions more or less frustrated.

Still, however, this is better than acting on no principle at all, or, rather, as is too often the case, acting on the principle of preserving as little as possible, and removing as much as may be possible.

To labor hard for the right principle, with whatever amount of shortcomings, must be better than openly to advocate and act upon those which are directly wrong.

However this may be, there is no doubt of the fact that our churches and old buildings are everywhere losing their value, through misdirected and reckless, or at least *over* restoration; that it is high time that some public protest be made against it, and some course adopted for its prevention, and that each of us in our own practice should institute a rigorous examination as to what he has done and is doing, with a view to a stern falling back upon true principles; that the churches yet unspoiled may yet be saved.

I have again, I would suggest the Vigilance Committee already hinted at. It could do much, though the works in this case are so many and so widely spread that it seems impossible for all to be watched.

After all, then, we must look to the architects employed. If they will not labor in the right direction I fear there is but little hope, and yet, without some such help, I do not believe that it is possible to do much. I have said, further, that they will always be able to adduce such plausible and practical reasons for their destructiveness, as to convince their employers that they are in the right.

I am, however, very uncertain whether we do not all go upon a very wrong principle in our dealings with ancient churches. I could almost wish the word "*restoration*" expunged from our architectural vocabulary, and that we could be content with the more common-place term "*repairment*." We have got into the habit of "restoring" a ruin, and the word has become a magic word, the signal for pulling it to pieces from top to bottom. Not only must substantial repairs be attended to; the foundations underpinning, the strength of the walls looked to, decayed timbers spliced or new ones here and there inserted, the roof carefully and carefully repaired, and the interior carefully made reliable, and the fittings put in seemingly order, following and retaining every remnant of what is ancient, the stonework cleaned from its thick coatings of whitewash, and the roof directed of the concealment of modern ceilings; but, beyond all this, every part of the building is to be made as if it were a new building, and the plaster stripped from the walls, the whole church left for some months at the mercy of the elements by the removal of its roof, windows which do not please the clergyman or the squire replaced with more pretentious ones; indeed, the whole church is to be made as if it were a new building.

We all of us, however, conservative our views, adopt something approaching to this as the normal and necessary work of a restoration; and the chief difference between us is, that, if the architect be at heart earnestly conservative, the church comes out from the ordeal with a certain amount of its ancient self remaining; much of a new growth, but much of its ancient life and very many of its interesting ancient features gone; but if his feelings are not conservative so much the more of novelty is there instilled, and so much the less of antiquity retained in the restored church.

Now this is really a very bad manner upon the value of our ancient churches and the interest with which one visits them. One perfectly

longer after an unloved church, though one knows that the state of them is by no means such as a man of feeling can look at without shame.

Still in them are found our old churches as they have been traditionally handed down to us. True it is that the exterior is in part decayed and mutilated, and even disgraced by barbaric alterations, yet one feels that the old work which remains is genuine and unimpaired. True, the interior is covered with a white wash, thickened out indefinitely by the repetitions of centuries, but beneath it we know that the old stonework is as the very workmen left it, and that if carefully scaled off with one's knife we shall find the dismaying decorations of, perhaps, two or three periods in its history. True, the floor is decayed, and, perhaps, hidden by a plaster ceiling, but we know that its timbers were wrought by the very men whose architecture we are studying, and that it is of the utmost value as an original specimen of their work. The floor, it is true, is uneven, worn, and stained with dirt, but it contains the bones of the white of those who lived while the church was new, and when parts of it were being built; and in certain corners remain the ancient encaustic tiles. The windows, again, are filled with patched and irregular glazing, but in the heads of the lights the remnants of the stained glass of the old church are to be seen. The bells are, perhaps, cracked, yet on them you will find the beautiful fretted border, and the pious, though it may be superstitious, legend.

#### ROYAL INSTITUTE OF BRITISH ARCHITECTS.

An ordinary general meeting was held in the rooms, 9, Conduit-street, Regent-street, on Monday evening, when there was a very numerous attendance. The chair was occupied by the President of the Institute, WILLIAM TITE, Esq., M.P., F.R.S., &c.

Mr. LEWIS announced several donations, and a vote of thanks to the donors was passed.

The late Prince Consort.—The Great Exhibition Building, &c.—The Chairman had the ordinary meetings of the Institute had been interrupted by that accident which had cast gloom and universal grief throughout the country—he referred to the death of His Royal Highness the Prince Consort, who had particular claims upon them; being their patron. The Queen was originally their patroness, but a year after their marriage the Prince Consort did them the honor of becoming patron, and they were one of them, perhaps, very few societies the Prince personally visited, and on one occasion in particular. On that occasion, and on all other occasions on which he had met him, the Prince Consort conducted himself with that consideration, warmheartedness, and practical kindness that made him so remarkable even at that early period of his career—a native German, a stranger to our language, and to our habits, and to our ways, yet he therefore possessed a knowledge of the qualities of the Prince Consort, and therefore he felt that the Prince was associated with the architecture of England. All topics of eulogium had been exhausted, and he did not know that he could say anything new on the subject. The President of the Institute felt it his duty, in consequence of the Prince Consort's death, to postpone the meeting which would otherwise have been held on the 10th of December last. The Council also presented, through him, to Sir George Grey, the Home Secretary, an address of condolence for presentation to Her Majesty the Queen. The address was extremely short, but was read by the Hon. Secretary, Mr. Lewis, who was [Mr. Lewis, Honorary Secretary, then read the address, which has already appeared in the BUILDING NEWS]. Of that address an acknowledgment, addressed to him, dated Whitehall, 4th January, and signed by Mr. Waddington, had been received. The Chairman said that he was to take an early opportunity of laying the address before Her Majesty. He would mention one incident in his own life, that brought him into particular association with the Prince Consort in connexion with science, and indirectly connected with architecture, that chemistry. A few years ago it was thought desirable a scientific chemistry should be taught in England, and Mr. Clarke and others conceived the idea of constituting what was now in fact a college of chemistry. Through the attention of Professor Lewis notice was taken of Professor Hofmann; it was through that society the services of Professor Hofmann were secured, but that result was chiefly attributable to the instrumentality of the Prince Consort. And he thought the society had thereby done the greatest possible amount of good in a manufacturing country of so much importance as England. In that matter the Prince Consort took the deepest possible interest; he gave his time, thought, money, support, and patronage in favor of that very useful institution. The institution continued for some years tolerably successful, at last the Council transferred it to the Government, and now it formed a part of the great institution in Regent-street, which was of so much importance to the country. The part which the Prince Consort took in that matter was well generally known; it came to his knowledge, and he felt bound to state that they ought to say they owed eminent acknowledgments to the Prince Consort in that connection. Dr. Lewis, who was the Hon. Secretary, then read the address, and requested by the Council that the Hon. Secretary should read the address. A paper was read on the new Exhibition building designed by Captain Fowke. He and others had protested against the fact of an architect not being consulted on a matter of so much importance as the erection of an Exhibition building, and he thought that the Council had been, at the Society of Arts, on attack made on architects, and the Council of the Institute and he himself had received letters asking them to take that matter up. Now, it was the feeling of the Council not to take any notice of that attack—(Applause.) The Chairman said that the Council had no objection, and denision were not worthy of notice, and that they were bound to meet an architect man in his own wisdom. Men occasionally rose up and attained eminence even without a professional education. It did not follow that because a man had got an early education addressed to him in particular pursuit there was anything gained thereby. Telford was at first a humble mason, then an architect, and then an engineer. But he did not mean to say that if Telford had had a good education he would not have been as good an engineer as he was without it. These things were regarded to him as accidents and incidents showing how men could get on with the greatest trials to get over was a great Oriental scholar, and then an architect, and the humblest walks of life before. An architect was an architect, an engineer was an engineer, and every one knew what it meant, and these were reasons why they should not enter into discussion on the subject of education. The Chairman thought they had been offered papers about this matter, he thought the meeting

would agree with him that they ought not to take any notice of the papers. As to the ungracious remarks which had been made elsewhere respecting Sir Charles Barry (some of whose relations he was glad to see before him), they had all to admire the great skill with which that eminent architect wielded his style of architecture, and it is in some of his buildings that we are such to find the fault. The New Palace of Westminster he failed a little, he thought he was not entitled to be held up as the case of a distinguished failure of an architect.—(Hear, hear.) He knew of no man more deserving of his honor, more deserving of the honor of the country and of the country, than the late Prince Consort. He was a man of such a high order of mind, and of such a high order of character, that he was not likely to be anything to attack a dead man whose loss they had recently so much to deplore.—(Hear, hear.) So much for that subject. He now wanted to say a word about a memorandum that related to himself. In an article journal, having an extensive correspondence, he found a most curious incident. They were looking at the introductory address at the opening of the session he took some notice of the improvements which had been going on at Paris. In the journal in question a portion of his address was given, and then followed additions which did not appear in the original, but which he still approved of. A portion of the address went to follow up observations previously made in it. Under the head of *Notabilities* in the journal in question appeared the following:—

"Is PARIS IMPROVED?—In the course of his opening address at the Royal Institute of British Architects last Monday evening, Mr. Tite, the President, said that he had been struck by the fact that the improvements which were made in what was taking place there and in almost every town of France, disposed to find fault with the comparatively slow rate at which improvements were effected in London. Within ten years Paris has seen, in fact, remodelled throughout, and brought to a new square, open squares, and fine houses, and a new and a more tortuous dose of filth and impurity. It was to be feared, however, that the real sanitary improvements of Paris had gained little by these changes; and, indeed, so long as the water supply and the sewerage were conducted on the present system, the most perfect and most complete sanitary improvements of the town—the average death rate. He advised those who believed that 'they manage all these things better in France' to visit the 'in-take' of the Chailott Waterworks, which was unpleasantly near the home of the architect, and to see the sewerage system, and to see the water to pay, even in a private lodging, for the necessity of an Englishman's life—the daily life bath. Nor was this all, for the embellishments of the town had resolved themselves into heavy charges on its inhabitants, while the utility of many of the costly works was not so great as was supposed. The result was that the city had risen to fabulous heights in Paris; the poor were driven from their old haunts, and no refuge was provided for them; while, unfortunately, the sanitary defects of the old houses were seriously reproduced in the new ones. No doubt there was something fairlike in the rapidity and brilliancy of the changes, but the result was that these improvements had been effected upon principles of political economy and by an abuse of public credit which would never be tolerated in England." Up to that point what he said at the opening of the session was very fairly reported, but then followed what was not spoken by him, but which he seemed to have said, and which he thought it his duty to say, and was— "Go into the courts of the new houses (when they have any) and see what they are like. Count the windows which take their air and light from them; in some of the worst cases you will find eighty windows looking into a well 30 feet square, and 10 feet deep. A more dangerous and more unhealthy position than from the tower of St. Jacques la Boucherie. At your feet run the Rue de Rivoli east and west, and the Boulevard de Sebastopol, north and south, each some two miles long and straight on end, excepting where the latter twists across the Place de la Concorde and the Champs Elysees. The result is that the air is purified by the extraordinary compression of the houses which form these two great streets. Almost everywhere else there is a certain little space remaining between the backs of the houses, but behind the splendid buildings which border these gigantic alleys there is no space at all. The houses are packed back to back, they are all roof. There is only one comparison possible of the scene before you. You fancy at once that an immense plough has driven a furrow down each of the streets, turning up the houses tight against each other right and left, just like cloids in an autumn field. Many of them are simple reverse, one on each side of the street. The average square of court-yard is certainly not one-tenth of the whole area. How could it be otherwise? The land is worth £40 a yard! The air has been taken out of the courts and put into the street; the front rooms have more of it than they had before, but the back ones, which are by far the most numerous, have none at all. The result is that the air of the 12,000 new houses, and not a small proportion of the enlarged old ones, are more or less constructed on this plan, can it be denied that their inhabitants pay something more than a simple money price for the changes effected? Is the private air said to be so much more pure than the air of the streets, or is it not, or is it not, and cannot live without breathing or seeing. These unhealthy houses have often been attacked, but with no result; their dangers were publicly but vainly indicated in 1867 by the lectures of the Professor of Civil Construction at the Conservatoire des Arts et Metiers, but they go on as before, and of thousands a year. Add the certain consequences of this system of lodging to the £310,000,000, and you have the total price of the improvements of Paris." Who was the author of the latter portion of the extract he knew not, but the Chairman, and the Council, had ventured to notice the matter, though he was not the author of the passage.

Mr. GEORGE GILBERT SCOTT, R.A., then read a long and able paper on the Conservation of Ancient Architectural Monuments and Remains. The first portion will be found elsewhere.

The Chairman said he would venture to make one or two remarks, which occurred to him in the course of the reading of the paper. Mr. Scott referred to Mr. Ruskin's opinion about the preservation of antiquities; that gentleman did more than give his opinion, he addressed the Antiquarian Society, and forwarded to it a large donation. The Antiquarian Society, on the Council of the Society of Arts, had been very much interested in the subject, and had issued a circular addressing the local secretary in furtherance of the object. However, they met with no encouragement on the subject, and after their last efforts were exhausted, the matter had died a natural death. He did his best to prevent that, but was unsuccessful. He was very much interested in the subject, and Mr. Scott would not succeed in a more extended attempt. At the same time, he should be very happy to aid him in the attempt, because he felt, as all must feel, the importance in an artistic point of view, of the appointment of some such dominant body as that proposed. One could hardly pass through the country without

To be continued.

seeing that what Mr. Scott said was true. But one felt particular regret at witnessing the condition of our ancient buildings; no one seemed to care for them, they fell into decay and even ruin. He thought that the state of things was not what it should be, and amongst them that of the marvellous Abbey of Whithy; he thought in a few years the whole of that abbey would be down, though the expenditure of a little money would have sufficed to save at least large portions of it. No doubt the extremely exposed situation and the very bad material of which a portion of it was constructed would prevent its preservation, but he thought that it should be saved. He merely mentioned that as an instance of the loss of our ancient cathedrals and castles, where the expenditure of a few pounds would save them. With regard to the vexed question as to the nature of restoration, he had heard much discussion about it, and it was a difficult thing to decide what should be done. But their friend Mr. Scott's suggestions, he thought, were very valuable, showed great experience, and indicated practical utility. What Mr. Scott said was every day becoming more obvious. A paper such as that which had been presented, characterized by the practical skill and the architectural feeling, wonderful taste and judgment, would undoubtedly be of great value generally. As to what the French were doing he thought they showed a marvellous skill in their particular style of architecture, though in many cases they were exposed to the charge of pedanticness in their treatment of ancient buildings. However, there was much to be said about what had been done to take away the effects of the ravages of time and decay. He dared say the paper itself was of that nature which did not enable one immediately to go into a discussion upon it. With these few remarks, however, he would invite Mr. Burnell to say a few words on a subject to which he had paid great attention.

Mr. G. GODWIN wished to ask, before Mr. Burnell addressed the meeting, whether the moment had not now arrived when the Government would be persuaded to issue a commission for a general examination of ancient buildings, or to obtain reports from all parts of the country, in order to ascertain what buildings had guardians, those which were without attendance, what were under decay, and what not. When Mr. Hume was in the House of Commons, active exertions were made to obtain the appointment of such a commission in this country. Mr. Hume, who was a great antiquary, and a great lover of the study of history, saw that money could not be better expended than in retaining ancient structures. It seemed extraordinary that, with all the large architectural and archaeological societies in existence throughout the country, destruction should go on of the most deplorable character. It was desired that some body should be appointed by the Government to initiate such inquiries as he had referred to, and he thought they would find a disposition on the part of the Government to appreciate the proposal, although Governments had behaved most infamously in regard to art, science and antiquities.

Professor DOUGLAS said it was his duty to resolve themselves into a practical body to carry out the object of Mr. Scott. And he thought they might approach the First Commissioner of Works to ask him to get a return made out of all ancient monuments under his care. There were several properties, it was found, which were in decay which he intended to preserve, which it was the duty of Government to preserve. If they asked the First Commissioner to cause such a return to be made, he thought the request would be granted.

Mr. G. R. BURNELL said Mr. Scott's paper related to so many points of interest that he was incompetent to discuss it. He thought it was a very interesting paper, and he thought the views of the Institute he should prefer postponing what he had to say to a future occasion. (Hear.) The paper was full of matters of detail which would have to be fully and carefully considered. (Hear, hear.)

The further discussion of the paper was then postponed until such an evening as the Council should appoint.

Mr. DIGBY WYATT thought they must all feel highly gratified by the paper which Mr. Scott had read that evening. (Hear, hear.) Monuments of art were to them one common property as architects, whether in Italy, France, or England; they must feel a common interest in them wherever they might be. He proposed a vote of thanks to Mr. Scott.

Professor DONALDSON seconded the motion, which was carried amidst loud applause.

Mr. SCOTT briefly acknowledged the compliment, and hoped the reading of the paper would lead to some practical result.

**New Members.**—The following gentlemen were duly elected:—Mr. John Youner, Jun., of 36, King-street, Chesham; as Fellow, Mr. Charles Robert Burt, of 34, University-street; as Associates, Mr. Thomas Taylor, of 10, Bedford-place, Kensington; Mr. Henry Wood, of 12, Richmond-terrace, Clapham; as Associates.

#### ELECTION OF DISTRICT SURVEYOR FOR CHESEA.

AT 1 P.M. the Metropolitan Board of Works elected Mr. Staneton Wood as District Surveyor for the parish of Chelsea. There were 23 candidates for the office, viz.: Messrs. Anderson, Mosley, John Billing, Richard Richardson, Benjamin Pappworth, Staneton Wood, William Lightly, S. Salter, Jun., Samuel Hill, Sydney Godwin, Thomas Edward Knightley, Henry S. Legg, Herace Field, Joseph Liddiard, Arthur Cates, Edward Roberts, Samuel L. Markham, Josiah House, Edward Paraire, Robt. Kerr, Henry Lawton, Arthur J. C. Baker, Alfred Wood, and John Cole. It was agreed that the list should be reduced to six on the first voting. At the close of the first voting the following were the six who had the highest number of votes: Messrs. Billing, Pappworth, Wood, Knightley, Kerr, and Cole.—Eventually the election fell on Mr. Staneton Wood, which causes a vacancy in the surveyorship of Putney and Roehampton.

**CONDEMNATION OF OLD HOUSES IN KIRKCALDY.**—Since the late and catastrophe in Edinburgh, the authorities in Kirkcaldy have been making inquiries into the state of some of the old houses. The result has been that a number have been condemned, and the owners have been ordered to demolish them. A number of them have already been pulled down. On the proprietors being made aware of the untenable state of their houses, they got an examination made by practical men, who concurred in the sentence passed by the authorities. The late W. Watson, Esq., of 10, Victoria-terrace, Glasgow, has been ordered to demolish 2 to 100 houses; 5 other houses, 2 to 50 houses. A house on Pitt Street, Glasgow, free for two weeks, descriptive of very good construction of which, enables persons in the use of the house to select with the greatest care, and the house is adapted to their use. Watson was free and safe by post on receipt of a remittance.

J. W. BENSIN, 39 and 41, Ludgate-hill, 46 and 47, Cornhill, London, E.C. Established 1748.

#### LONDON AND PARIS HOSPITALS.

*Galignani's Messenger* reports a discussion which took place a few days ago at one of the sittings of the Académie de Médecine on the relative sanitary condition of the hospitals of Paris and London. Dr. Quinquaud stated that from what he had seen by various foreign surgeons, and also by French physicians who had visited foreign hospitals, there existed a considerable difference in the results obtained in the English and German establishments of the kind compared with those in Paris. The sick-wards of the London hospitals were much better aired, being provided with large stoves, which gave rise to draughts and consumed the vitiated air of the rooms; patients who were able to walk took their meals in dining-rooms apart from the sick-wards, an arrangement which greatly diminished the crowded state of the infirmaries, and contributed towards maintaining the purity of the air; the floors were frequently washed, which prevented the accumulation of dust, while the beds had no curtains, whereby miasmatic emanations were better dispersed; and, lastly, the linen department was the object of particular care.

Dr. Davaine differed in opinion from the former speaker, and maintained that the manner in which the Paris hospitals were conducted was far superior to the London system. If the sanitary condition of the latter was better it was owing to the fact that their population was smaller, because the paupers relieved by the poor-tax were not admitted into them. He then quoted some statistical documents to show that the mortality in the Paris hospitals had been constantly diminishing since the commencement of the present century.

Dr. Maigne, adhering to an old report of Dr. Tenon's, who had visited the hospitals both of London and Paris, remarked that the author proposed to limit the sick-wards to the ground floor and the story only, carry sick-wards containing 24 beds at the utmost. In 1841, he added, the slaughter-houses of Paris were transformed into hospitals, and the results of this measure were curious. The mortality of the French operated on in the common hospitals was one in five, eight, nine, and ten, in the slaughter-houses, one in six, and one in seven, in the foreign soldiers operated on in the hospitals was one in 7, 13; in the slaughter-houses one in 10, 19. This showed that the mortality was lowest in the best-aired situations. As to the London hospitals, there was one fact to be taken into account, viz., that the sick admitted into them were much more seriously ill than those admitted into the Paris hospitals. Out of 100 patients operated on in each city, 56 died in Paris, and only 30 in London. Out of 100 amputations of the thigh, 60 ended mortally in Paris, 21 in London, and 19 at Manchester, where the hospitals have the advantage of the country air. Now, as to the fact of this enormous difference? Simply the fact that the hospitals there are an many as 80 beds, there are only 12 in the London ones.

The discussion is likely to be continued at a future sitting.

#### METROPOLITAN BOARD OF WORKS.

A MEETING of this body was held on Friday last, at the Board-room, Spring-gate, 7, Victoria-street, E.C., the Chairman, presiding.

**Erection of a Gas Testing House.**—The CHAIRMAN stated that it being urgently requisite to have erected as speedily as possible a gas testing-house in the new street in Southwark (under the Sale of Gas Act), he had directed the Engineer to send in tenders to build the same. The names of the gentlemen to whom the invitation was given sent in tenders, which were as follow:—Messrs. J. Wilson and Son, £1,970; Mr. Edward Thirt, £2,015, and £26 for extras; Mr. W. B. Nixon, £1,740, and £26 for extras; Mr. A. E. Robinson, £1,810, and £44 for extras; and Messrs. Down, £1,850, and £26 for extras. The estimate of the Superintending Architect was £1,450.

After some discussion, the subject was referred back to the Committee, with power to deal with the tenders.

The Board then proceeded to the election of a surveyor for the Chelsea district. **City Improvements.**—A report from the Works and Improvements Committee stated that though the improvement now being carried out by the Commissioners of Sewers of City of London, at No. 60, Great Tower-street, would be attended with considerable public benefit, the Committee, having regard to the fact that the funds at the disposal of the Board for the purpose of metropolitan improvements is exceedingly limited, and to the necessity of their diffusing, as far as may be practicable, street improvements of this nature over the entire area of their jurisdiction, are not at present prepared to recommend a contribution in the above case.

Mr. H. L. TAYLOR moved as an amendment against the adoption of the report, that the Board contribute one-third of the cost, or £332 13s. 4d., towards the improvement.

The amendment was, after a long discussion, carried by a majority of 4.

The consideration of a report from the Building Act and General Purposes Committee, on the reference by the Board of the 28th June, 1861, as to the necessity for some immediate legislative provision to prevent the building of warehouses, &c., with iron doors; and another report from the same Committee, on the amendment of the Metropolitan Building Act, 1854, was postponed, sine die.

**Utilisation of the Sewage.**—The Board was informed that the Main Drainage Committee had prepared a very long report, stating that the Committee entertained the view that the proposition for dealing with the sewage of the northern area of the metropolis, contained in the communications from the Hon. William Napier and William Hope, Esq.; and recommending the Board to assent to the principle of a concession of the sewage, for a term of fifty years, subject to the requisite authorisation by the legislature to the Board, and to the introduction of all necessary clauses in the Bill for the protection of the Board, and of the public interests confided to them, and for ensuring the fulfilment by the Company of the obligations undertaken by them.

The report was then read, but ordered to lie on the table, and circulated amongst the members, and taken into consideration at the meeting of the Board this day (Friday).

**Progress of the Main Drainage Works.**—The engineers, Mr. Banquette, has, on the 10th inst., been very satisfactory, although, at this period, the short days and the unsettled state of the weather necessarily retarded all building operations. Mr. Furness has now completed all the brick piers, abutments, and wing walls of the bridges over the rivers, railways, and roads, except the Stone bridge between the Avenue and the river; and the iron girders and substructure are being cast and fitted at the founder's, and gradually delivered on the works, The





## Reviews.

*Gothic Memorials.* By W. C. Brangwyn, Architect, Compton-road, Wolver-

**O**f which the first part is before us; consists of twenty plates, drawn by the author and printed at the Anastatic press of Cowell, Ipswich. The work is described as intended to contain sundry sketches for mural monuments, headstones, crosses, &c. The designs are not all of equal merit, but several are rendered more valuable by the introduction on the plates, of sections and sketches of details to an enlarged scale.

*The Royal Engineer Department: Its Work and the Estimates.* By ARGUS.

WITHOUT going quite to the extent that "Argus" does in his attack on the Department, we agree that it would

Be an interesting inquiry on the part of some member of the House of Commons to call for a return of the fortifications constructed within the last ten years, the names of the engineers who drew the plans, the amount of the estimate on which the money was granted, the amount of the accepted tender, and the actual sum or sums paid for each work up to the time of its completion; and what portion of these works have had to be taken down or have become obsolete by the scheme proposed by the Defence Commissioners.

It is said that—  
The Defence Grant is being expended on a German system of fortification, rendered obsolete by modern improvements in the mode of attack. We have ill-ventilated casemates, counter-scarped revetments, the substitution of caponiers, and detached Carnot works, as if all modern artillery was to be superseded by the primitive weapons of our ancestors.

The author does not desire to question the intelligence, honor or courage of the officers of the Department, but protests against their being employed on works unless they are fully qualified for the duty, and remarks that—

It is now well known that all War Department works are really superintended by broken-down civil engineers, architects, or builders, to whose necessary circumstances are added the fact that they are not paid for their services. They are employed under the title of clerks of works, perform the duty which the public suppose to be performed by the officers of Royal Engineers and it is worthy of remark, that no superintendent of works is ever employed by the War Department. The officers of Royal Engineers, to hide the clerks of works from public view. But as to the best performance a glimpse may be caught of the real state, it has been the policy of the War Department to employ men of inferior position and attainments, who will be rendered impracticable; and also introduce men of inferior position and attainments to the service, with the view of depreciating it in the estimation of the authorities and the public.

*Report of the Council of the Art Union of London.*  
THE annual report of this Council shows a falling off in the subscription list

During the past year, attributed in some measure, to the depression in trade, &c., and also to the fact that several other projects with the same end in view, now bid for the patronage of the public.

The Council state that they do not of necessity regard these projects in any inimical spirit so long as the means employed are judicious and legitimate, they are glad to see others exerting themselves to forward the same cause in which they have long labored.

Subscribers for the ensuing year will each receive an engraving by Mr. Sharpe, from the picture by Mr. F. Goodall, A.R.A., called "Raising the Marpole."

It is further mentioned that the council have presented a memorial to Government, "praying for the adoption in the several galleries and museums of the nation, of the uniform plan of opening them to the general public every day in the week except Sunday, but with a charge of sixpence for each person (except students) on Tuesday and Friday. They hope that this proposed may be entertained, and the plan fully adopted by the time of the opening of the International Exhibition, so that the visitors to London both native and foreign, may have the benefit of the removal of the uncertainty now caused by the conflicting rules for admission to the several national collections." It is not easy to understand why a charge of sixpence should be made on two days in the week for admission to our great free exhibitions.

*The Art-Union of London Almanac.*  
**A**PPERS in a newly designed cover of Gothic character. It contains information in a very condensed form on art societies and exhibitions, collections of pictures, and some other matter now almost peculiar to almanacs.

*The Practical Mechanic's Journal.*  
THE January number of our contemporary contains a paper on the Annealing Temperature of Metals and Crystallisation produced by Vibration, an account of the machinery of the *Ocelaria* and the *Moolten* steamers. An article on Inventions and Protected Patents; another on Subterranean Railways in the Metropolis; descriptions and illustrations of Patents; Law Reports of Patent Cases, and some usefully brought together "monthly notes," &c.,

### Correspondence.

WHAT IS AN ARCHITECT?

SIR,—Will you kindly allow the following to appear in your Journal? It would have been written before, but I was in hopes that some one better able than myself would have written to you on the subject.

reading of a paper by Captain Phillips on the Building for the International Exhibition this year, Mr. Henry Cole said "when the Royal Commissioners for 1862 entered upon their functions Captain Fowke had plans ready." Can Mr. Cole state how it was that Captain Fowke happened to have plans ready? Who commissioned Captain Fowke to have these plans prepared? Did he have them prepared at his own expense, or was the expense charged to the vote for the Department of Science and Art, and, if so, by whose authority? And if Captain Fowke was commissioned to have plans prepared, why was he, and he only,

I wish to be careful as to the difference between *preparing* and *having prepared*, because I should be sorry to charge Captain Fowke with the design for the Exhibition. The credit of the design now in question belongs to some of the very numerous architectural assistants who are employed under Captain Fowke, at Kensington—as in all other cases where military Engineer officers are engaged on civil duties.

## IMPROVEMENTS IN BUILDING, &amp;c.\*

IN THE CONSTRUCTION OF ARCHES OR OTHER CURVED STRUCTURES MADE BY BLOCK, STONE, OR OTHER MATERIALS, AND DATED June 2, 1961, J. D. DAVIDGE.

This consists in making two sides of one of the pieces to be used in the construction of a double wedge shape, pointed at one end, and square at the opposite end. The inventor also forms the two sides of another piece to be used in the construction of corresponding shape to the sides of the aforesaid double wedge shape piece, so that, when two or more of such pieces are fitted one against the other, and an arch or other curved structure built of such pieces, each piece will be self-supporting, and when put together with cement form a very strong piece of work.

IN THE CONSTRUCTION AND INTERNAL ARRANGEMENT OF FURNACES, AND IN THE PREPARATION, MANUFACTURE, AND TREATMENT OF CLAYS, AND OF ARTICLES, SURFACES, STRUCTURES, AND ERECTIONS, SUBJECT TO THE ACTION OF FIRE OR ATMOSPHERIC INFLUENCES.—Dated May 29th. 1861.—T. Hale and A. Wall.

This consists in erecting in the furnace, in contact in or near to the fire, a wall or partition, or a chamber, or two or more chambers, with openings or perforations through or into which the smoke, gases, or vapors arising from the combustion of the fuel, or the air before coming in contact with the fuel, are to pass. The inventors add to clay in the process of manufacture a preparation of powdered asbestos, pumice-stone, or lava, magnesia, and home ash.

IN THE MANUFACTURE AND ORNAMENTATION OF METALLIC CHIMNEY-PIECES, OR MANTEL-PIECES, AND IN THE ORNAMENTATION OF METALLIC STOVES AND FIRE-PLACES.—Dated May 29, 1861.—H. Crichley.

The patentee claims making metallic chimney-pieces, and plates or sheets of metal, jointed together by rivetting, screwing, soldering, &c. 2. Ornamenting metallic chimney-pieces, and also stoves and fire-joints, by affixing ornamental paper to those parts of the chimney-pieces, &c., which it is wished to ornament.

AN IMPROVED WINDOW SEAT, PART OF THE INVENTION BEING APPLICABLE TO OTHER PURPOSES.—Dated May 30, 1861.—W. B. ROOF.

COMPOSITION TO BE USED IN SUBSTITUTION FOR BRICK AND STONE, AND AN  
IMPROVED METHOD OF CONSTRUCTING WALLS AND ROOFS FOR HOUSES, &c.—  
Frank Jones & Sons, 2, Cross Street.

This improved composition is formed by rubbing into blocks the following ingredients:—Burst egg or loam, turt dust, brick rubbish, gravel, hoop iron, wire, lime, cement, vegetable fibre, animal hair, and sand. The improved method of constructing walls and floors is as follows:—The ground is first dug up and the surface is made level. Then, between which the above named ingredients are run or placed in a loose state, the materials are rammed down. The wall is then built up by the use of the same materials for forming the outer face of the wall or roof being first applied against the inside of the material forming the outside of the frame or mould. The materials form one solid compact mass, and joints are few. After they have been raised and solidified the frames or moulds may be removed and the wall or floor may be finished in any manner desired. The floors may be finished in any manner desired by letting into the composition, coarse carbon stones.

A CONE PREVENTING SMOKE AND EXTINGUISHING FIRES IN CHIMNEYS.—Dated 16th June, 1901.—A. L. C. de Montagn, Paris.

[illegible]

**IN THE FORM AND CONSTRUCTION OF CHINESE TOPS, OR APPARATUS FOR PROMOTING CHINESE IN ORDER TO REGULATE THE UP-CURRENTS AND PREVENT THE DOWN-DRAUGHTS.**—[Dated June 17, 1861.—J. Purrant and K. A. Harris.] This invention consists of a cylinder of metal, preferably zinc or earthenware, or other suitable material; on the top of this the patients fix, or attach, or form a series of corrugated cells, opening towards the bottom, so as to receive the external air, which is drawn up by the action of the fire, and is forced down the tube, and is either slightly inclined or vertical; the band on which these cells are affixed, as before stated, opens into a conical cap, which is affixed to, and opens into, and encloses the cylinder. Round the outer periphery or surface is another series of conically shaped cells, the bottom of which, being open, receives the enter air, and passes it into the interior of the cylinder.

**SMOKE-CONCERNING GRATE.**—*Dated June 12, 1861.*—*L. J. J. Peters.*

This invention relates to a new arrangement of furnace grates for the combustion of smoke, composed of bars, each having a series of small circular or tubular openings at intervals by which the gas can pass between the bars. The upper surface of the grate may be of a round, square, elliptical, triangular, or other form; it is also perforated at intervals with elongated holes, arranged in various ways, to allow air introduced at the under part of the grate to pass between the cheeks, and through the tubes in the bars into the centre of the fuel, so as to obtain more perfect combustion.

**AN IMPROVED "FLOOR-DOG," ON CLAIM.**—*Dated June 12, 1861.* **G. Cox.**  
The object of this invention is to obtain sufficient pressure against the edges of floor boards to keep them in position and close together during the operation of raising and lowering the joists. To this end, the invention consists in the use of a lever, the thickness (or rather more) of the floor board; on the under side of this lever are placed two lugs or projections, one at each end, which are adapted to engage the under side of the joist, and the other end of the lever is connected with a handle or driver, which is adapted to be moved back from the right angle to the joist, the lugs or pegs firmly grip each side of the joist, while a wooden bar, which is pointed to the lever, presses a driver, also of wood, against the top of the lever, and thus forces the lever into position, so that the lugs will form a parallel line with the floor boards, which tends to bring the driver from the oblique line to the rectangular, thus forcing the floor boards together during the operation of

*New Iron Bridge over the Mersey.*—Messrs. Bellhouse, of Manchester, have recently erected a new bridge over the Mersey at Northenden. The bridge spans the river by means of two wrought-iron lattice girders, of ornamental open design, the width of the river being nearly 85 feet. Each girder is 88 feet long, 6 feet deep in the center, and 2 feet 6 inches deep at the ends; the space between the two girders is 2 feet, which is the depth of the water. The bridge is supported by two cast-iron piers, four at each end. The water is carried upon eight cast-iron piles, four at each end, 8 inches in diameter, driven about 10 feet into the ground. The footpath is continued to the top of the bank on each side of the river by iron beams, plank- ing, and railing. There are two arches of cast-iron, with shields having armorial bearings, supporting the lower parts of the lattice girders, and in one of these there is an iron work arch.



## TENDERS.

KEY COUNTY—CONSTABULARY STATION.

Alterations and additions to buildings at Wren's-croos, Maidstone, for head-				
station. Mr. Balmer, county surveyor. Quantities furnished by Mr. George Luck.				
Naylor .....	1,627	8	Bates .....	£
Holloway .....	1,627	0	Wallis .....	
Ayers and Son .....	1,650	0	Clunness .....	
Chambers .....	1,614	0	Grimested, Bridge, and Son .....	
Cobb .....	1,476	7	Stutton and Vaughan (accepted) ..	

## HOTEL—ABERDOR.

For a new hotel in the Bank-street, Aberdore, for Mr. Thomas Tuntion. Messrs. Eggar and Day, architects, Farnham and Aberdore.

J. Martin, Aberdore.

## CHURCH, LIVERPOOL.

For erecting St. Martin's Church, Liverpool, Messrs. W. and J. Hay, architects. Quantities taken up by Mr. Sherlock.

	First Plan.	Second Plan.
R. Wells .....	£1,099	£1,400
J. H. Maith .....	8,991	1,426
J. Westwood .....	2,800	1,400
Nicholson and Ayrton .....	2,072	1,361
Hugh Yates .....	2,960	—
Wm. Tomlinson (accepted) ..	1,799	1,361
Lapsley and Moffitt .....	—	1,135

## COMPETITIONS OPEN.

## BRIDGE.

BRISBANE RIVER.—The Municipality of Brisbane are prepared to receive designs and tenders for the construction of a bridge over the Brisbane river, at Brisbane, the capital of Queensland. The author of the best design, at the lowest cost, will receive a reward of £100, or be employed to execute the work, or to furnish sufficient proof of his competency and experience in similar undertakings. A premium of £200 will be awarded to the best design, and £400 for the next best. The plans, specifications, and estimates of the first and second designs will be received by the Corporation at their property. The remainder will be returned to the competitors; but the corporation will incur no responsibility as to their safe delivery. Each set of drawings, and the documents accompanying them, will be accompanied by a note only, and accompanied by a letter in a sealed envelope, marked with the name thereof, and containing the author's name and address, and such testimonials as he may think proper to furnish. Preliminary judges, being non-competitors, will be appointed by the Corporation to determine the merits of the respective designs. Eligible tenders for the work, accompanying the design, will be entertained. All drawings and tenders to be received by the Corporation on or before the 15th of March next. Copies of the instructions to competitors, and the plan of the city, can be obtained of F. Manley and Co., the Colonial agents, and agents to the Municipality of Queensland, 60 to 80, Queen's House, Old Broad-street, London, E.C.

## TIMBER EMBANKMENT.

LONDON.—The Commissioners are now receiving plans for embanking the Surrey side of the river Thames, within the metropolis, which will conduce with the greatest efficiency and economy to the improvement, embellishment, and convenience of that part of the metropolis, and will improve the river, and will provide a public thoroughfare without stopping such trade as must be carried on upon the bank of the said river. Plans must be sent in on or before Monday, the 13th January.

## CONTRACTS OPEN.

MONAGHAN.—For the alterations and additions to Monaghan Gaol, Plans, &c., to the 22nd of February next, at the gaol, and at the office of the architect, Mr. John McCully, 41, Westland-row, Dublin. Sealed tenders to be delivered at the gaol, before the 1st of February.

## DWELLING-HOUSE.

DUMFRIES (N.B.).—For the materials and work required to erect and complete the following buildings on the Estate of East Tynwald, for Mr. Currier Thornton, Esq., &c. 1. A dwelling-house and stabling of offices on the Farm of Ferryloch. 2. Two cottages on the Farm of Ferryloch. 3. A dwelling-house and stabling of offices on the Farm of Burnhead. Plans, &c., with James Barrow, architect, Dumfries, to whom tenders on or before January 20th.

## CHURCH.

IRELAND.—For works to be executed at the churches of Inistagone, Co. Kilkenny; Donaghmore—Strathilly, Queen's Co.; Kinnahilly, Co. Waterford; and for building the church of Gungahilly, Co. Cork. Plans, &c., with the resident ministers of the parishes. Tenders to be directed as follows:—Proposal for —, the church of —. The Sociological Commissioners for Ireland, Dublin, before Jan. 16.

## RECTORY.

RAIPORSHIRE.—For building a rectory-house and offices at Norton, near Preshelton, Raiporshire. Plans, &c., with Thomas Nicholson, F.R.A.S., diocesan architect, St. Bathonsbury, Bath. Tenders to be delivered to the architect on or before the 18th of January.

## WAREHOUSE.

LEEDS.—For the erection of a warehouse in Park-place, Leeds. Drawings, &c., with T. Ambler, architect, 10, Park-row, Leeds, from the 13th to the 21st January. Tenders to be sent to Mr. Ambler not later than 11 a.m. on the 21st January.

## WATERWORKS.

GLOUCESTER.—For providing and fixing at the Gloucester waterworks. Contract 1.—Two wrought iron triangular girders, 16 and 18 feet span, with iron fencing. Contract 2.—About 500 yards of wrought iron continuous fencing, and other works, at Witcomb, about six miles from Gloucester. Plans, &c., at the office of Mr. W. M. Landonborough, J. A. C. Clerk, the Local Board, (Turn Kinsbury). Tenders to be sent to Mr. K. H. Fryer, clerk to the Local Board, (Gloucester), under address, to the Gloucester Local Board of Health, on or before the 14th inst.

## TILLS.

ESSEX.—For the erection of a pair of villas, at Witham, Essex. Drawings, &c., with Fred. Chancellor, architect, &c., 55, Old Broad-street, London; and Chelmsford, Essex. Tenders to be sent by the 13th inst.

## COVERED YARDS.

ESSEX.—For the erection of covered yards, at Tillingham Hall, Essex, for the Trustees of Dean Clarke's Charity. Drawings, &c., with Fred. Chancellor, architect, &c., 20, Old Broad-street, London; and Chelmsford, Essex. Tenders to be sent by the 18th Jan.

## DRAKS.

WORKINGTON.—For the construction of a wet dock for the Night Inn, the East of Lonsdale, at Workington, Cumberland. Specifications, &c., at the office of Messrs. Lamb and Howson, solicitors, Whitehaven; or of Mr. M. W. Ward, C.E., & Great George-street, Westminster. Sealed tenders to be delivered to the Tender for Workington Dock, Messrs. Lamb and Howson, Solicitors, Whitehaven, on or before the 28th January.

## FARM BUILDING.

DEVON.—For the erection of a new farm house, at Halsecombe, near H. Plans, &c., at Messrs. Law and Son's office, solicitors, Bedford-croos, Exeter, where tenders must be forwarded by the 1st February.

## MILITARY WORKS.

CORK.—For works of defence including bomb-proof barracks, at Camden Fort, Cork Harbour, &c. Time for tenders extended to January 22nd.

FLEETWOOD.—For tenders, in detail, for the erection of a two-pinn wooden battery, at Fleetwood. Plans, &c., on application at the Commanding Watch-house, Fleetwood. Further particulars to be obtained from Commander Chapman, R.N., Morecambe, to whom all correspondence is to be addressed, and with whom tenders are to be lodged by Saturday, January 11th.

## PATENT SLIP.

HULL.—For a patent slip, not less than 150 square feet, but not larger than the existing slip at King's-pond-Hall, for the use of vessels frequenting the port, for the directors of the Dock Company. A statement of the conditions may be obtained upon application to the Secretary, W. H. Thompson, Accomptant-General, and no conditions in a form of tender upon which only tenders will be received. Tenders must be sent in on or before 12 noon, of the 13th January, addressed to the Secretary.

KENT.—For the supply to the Trustees of the Wrotham and Maldstone roads, of the following materials in the undermentioned districts:—Surf-pick-pit, Folkestone, 1st, District, 1st, 2nd, 3rd, 4th, 5th, 6th, 7th, 8th, 9th, 10th, 11th, 12th, 13th, 14th, 15th, 16th, 17th, 18th, 19th, 20th, 21st, 22nd, 23rd, 24th, 25th, 26th, 27th, 28th, 29th, 30th, 31st, 32nd, 33rd, 34th, 35th, 36th, 37th, 38th, 39th, 40th, 41st, 42nd, 43rd, 44th, 45th, 46th, 47th, 48th, 49th, 50th, 51st, 52nd, 53rd, 54th, 55th, 56th, 57th, 58th, 59th, 60th, 61st, 62nd, 63rd, 64th, 65th, 66th, 67th, 68th, 69th, 70th, 71st, 72nd, 73rd, 74th, 75th, 76th, 77th, 78th, 79th, 80th, 81st, 82nd, 83rd, 84th, 85th, 86th, 87th, 88th, 89th, 90th, 91st, 92nd, 93rd, 94th, 95th, 96th, 97th, 98th, 99th, 100th, 101st, 102nd, 103rd, 104th, 105th, 106th, 107th, 108th, 109th, 110th, 111th, 112th, 113th, 114th, 115th, 116th, 117th, 118th, 119th, 120th, 121st, 122nd, 123rd, 124th, 125th, 126th, 127th, 128th, 129th, 130th, 131st, 132nd, 133rd, 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## THE YEAR'S PROGRESS.\*



HE circumstances connected with the curatorship of the Soane Museum is another instance of the evils resulting from lack of professional organisation. Into the qualifications of the candidate we have no wish to inquire. It is sufficient to note that the gentleman at present holding the office is not an architect, and that his professional achievements do not satisfy the requirements of the Act of Parliament. The result of the imbroglio is the resignation of two of the trustees, and a proposition to apply to the Legislature for fresh powers, which may end in the collection being sent to South Kensington, or made more accessible to the public than it is—a result which, in the interest of artistic study, we should welcome. Again, the cool way in which architects were shelled by the Commissioners of the International Exhibition deciding to "have nothing to do with the same source. On the merits of the building there is no occasion to speak; they cannot be fairly judged until the structure be complete. But this we may be permitted to say, that had architects been allowed the opportunity, there is no reason to suppose that they would have been unable to supply designs quite as meritorious, from an architectural point of view, as Captain Fowke's, and quite as cheap in construction. If eminent architects led the Commissioners into a dilemma last time, which we deny, they should have been afforded an occasion to repair their error. It would have been gracious to "have made this concession. But the cause of the dilemma did not reside with architects; it was with the Commissioners themselves, who did not know their own minds, or, at all events, did not know what was required. From the novelty of the thing their ignorance was quite excusable. Had it been otherwise, and the Commissioners been able to say "we require a temporary structure, covering so much superficial area, and affording so much wall-space, the whole not to exceed a certain amount for cost," it is ridiculous to insinuate that architects could not have designed a monster greenhouse just as well as Sir Joseph Paxton did. On the present occasion we do not complain of the Commissioners having obtained an officer of Royal Engineers on the profession. On the contrary we desire access to it to be as free as possible. But we do complain that architects should not have been allowed to compete with this gentleman for designing a national edifice—one which foreigners will not unreasonably regard as the standard of constructional skill and æsthetic capacity possessed by British architects of the present day.

If we turn from the social position of architects to their works the prospect will be infinitely more cheering. A general view must satisfy the least favorably disposed towards the profession that there is a steady and very marked progress in the constructional and æsthetic character of recent buildings. We do not say all are good, nor do we seek to deny that errors have been perpetrated, often springing from a striving after originality, but we do contend that on every side there is evidence of more thought, of more serious study, and of a greater desire to build honestly than existed formerly, or are to be found among contemporaries abroad. In the provinces, but more particularly in Lancashire and Yorkshire, the revival of study and conscientious construction are quite as remarkable as in the capital. In Manchester, Liverpool, Edinburgh, Glasgow, Dublin, Newcastle, Leeds, Halifax, Hull, and other towns, structures are arising highly creditable to the age, and which, on the Continent, would be regarded as architectural monuments.

Judged by the works they have been commissioned to execute, Gothicists would not appear to have experienced any diminution of public favor; the check they may have suffered with respect to the Foreign Office has been compensated in other ways. We may sympathise with the architect, under his annoyances, and some may even go to the extent of regretting that he should have condescended to design "for God's sake" something Italian, but the pressure put upon him proceeded from individual taste, and is liable to be removed at any time—even before the foundations are laid, by the play of political parties. Nor are the Mediævalists altogether devoid of hope that the presence of

Mr. Layard in the Ministry may lead to modifications which may end in a return to Mr. Scott's original design, or in the structure being gradually Gothicked, as it is developed. Of late there has been a noticeable tendency to forsake servile copyism of Gothic examples, and, instead, to work in a Gothic spirit, with greater freedom, in view to employ unhesitatingly, and as liberally as may be consistent with artistic propriety, modern appliances to satisfy modern requirements.

The stronghold of Gothicists has been in ecclesiastical edifices, of which the most remarkable are the churches and restorations of Mr. Scott, Mr. Street, and Mr. Butterfield. One of the earliest attempts, if not the first, to introduce the Italian, or polychromatic, element into English Gothic has been nearly completed by the restoration of All Saints', Kensington, which was commenced ten years ago or more. Here the original architect introduced red vousoirs in exterior arches, mosaics in spandrels, and made the columns of Devon and Cornish marble. The pulpit is of Derbyshire alabaster, Cornish marble, and Irish black marble. The seats are open and stained, while color and gilding have been introduced in the recesses. The pavement is composed of colored quarries; and horizontal bands of the same material, black, red, and yellow, are carried round the lower part of the walls up to a height of about 6 feet. Mr. Street's church in Westminster is an admirable example of the architect's taste and skill, and is remarkable for what many will regard as his happy innovations. The material of the walls both external and internal is common red brick. The architect has relied more than usual on polychromy for effect, and on the aid of sculpture and painting. What is certainly a novelty, and must create doubts of the architect's orthodoxy in the minds of advocates of parochial whitewash, is Mr. Watt's church in Baldwin's garden, which decorates the east wall of the nave, and is a greater work of art than his fresco in Lincoln's-inn. Sculptured medallions are introduced in appropriate positions. The columns dividing the nave from the aisles are of polished red granite with carved capitals, illustrating the miracles and parables. The roof is boarded between the arches ribs are elaborately decorated with designs in color. Another novelty is the decoration of the apse with figures incised in stone, filled in with black cement, while the pulpit, if taken by itself, would be considered as a highly creditable piece of sculpture, carefully designed, and wrought in ironwork is employed as screens. Mr. Butterfield's church in Baldwin's garden is scarcely sufficiently advanced for us to speak of it in detail. Superior to Margaret-street church in general design, perhaps, it will not be inferior in the richness and elaborate decoration of the interior. The materials of the walls are the common yellow bricks, but for the decoration of the interior alabaster and colored marbles are to be employed, as well as a series of frescoes. These are the two chief features of progress in ecclesiastical architecture during the year (besides Mr. Scott's cathedral restorations), which indicate a stride towards the freedom the people of England have not hitherto witnessed. Elsewhere in the metropolis and the provinces churches and chapels have been erected, which we regret our want of space precludes us from noticing. They will be found set forth in the volume just ended.

The new room to the National Gallery is an improvement, but can be regarded in no other light than as a costly makeshift. A Turner gallery has to be built, which Mr. Pennington proposes to do, and at the same time to supply additional accommodation to the National Gallery by building a suite of rooms at the back, over part of the workhouse site and the barrack-yard, at a cost of £100,000. The structure is to be devoid of architectural character and ornament, and will supply an area of 30,000 square feet. But seeing the risk of increase of the national collection of pictures, it will not be many years before the new execrable edifice will be filled to repletion, and a fresh outburst, equally devoid of architectural character rendered necessary. What is to be done with the British Museum?—a question that has been repeatedly asked, without eliciting a reply. It is rumoured that the separation of the natural history collections from the rest is to be effected; but where they are to go yet remains a question.

The buildings of the Horticultural Society exhibit in a fresh and agreeable manner the resources of Italian architecture; and in the monster hotels that are springing up in connexion with railway termini architects have found admirable opportunities for displaying their skill in dealing with large street façades. The task is not easy to execute; and with the exception of the Grosvenor Hotel, there is not one which an architectural critic would be inclined to regard as possessed of high artistic merit. They may be honestly built, and well planned, but they are not in all respects satisfactory works of art.

Having so recently described at length the metropolitan improvements designed or in the course of being carried out, the arterial drainage works, new thoroughfares, markets, bridges, and railways, we may be permitted to omit further notice of them here. But we cannot refrain from congratulating all parties concerned in building operations on the apparent termination of those unhappy strikes, which have done

\* Continued from page 26.

nothing but mischief, and would lead to the belief of unconquerable ill-feeling existing between masters and men. It is, however, some consolation to learn that during the last decade the census reveals the fact, if it were not known from other quarters, that the building trades have had their fair share of prosperity. In England we have built, or are building, 523,835 new houses, which is doubly satisfactory, as affording proofs of the activity of the building trades, and of the increasing well-being of the community at large.

#### CHURCH RESTORATION.

IT is not often the case that those who are habitually engaged on practical works, and can carry them out in the best way, can equally well write about them or describe them. To take only a single instance, George Stephenson, the father of our railway system, though one of the most inventive and skillful engineers the world has ever seen since mechanics first became a science, was one of the worst possible witnesses, and his friends never offered his evidence without reluctance. It is, therefore, of peculiar value to obtain the opinions on a practical subject of a practical man, who unites to technical skill the ability to write and speak well.

On this ground, the paper of Mr. Scott, "On the Conservation of Ancient Buildings," published in our columns, possesses a value of no ordinary kind. Few men, if any, have been so extensively employed in the work of protecting and preserving ancient buildings, and few architects could be found so capable of conveying to others the impressions made on their own minds by their experience of that or any other professional engagement.

We are, therefore, justified in supposing that Mr. Scott's paper will be almost universally read, and read with great attention, and that consequently the subject of it will be likely to be just now very extensively under the notice of our readers. This being so, now is the proper time for any observations of our own, on the whole question or on any portions of it.

Church restoration is by no means the same thing as the conservation of ancient buildings; but it is a part, and a very important part, of that comprehensive subject; and more commonly brought under notice than any other sort of preservation work, with the more commonplace language, to limit what we have to say in this article to works done upon that one class of ancient buildings which includes ancient churches and chapels, without noticing either cathedrals on the one hand, or domestic, antiquarian, or monumental objects of architecture on the other.

The word restoration is an unfortunate one. "I could almost wish," says Mr. Scott, "the word *restoration* expunged from our architectural vocabulary, and that the word *restoration* replaced by the more commonplace term *repair*." This is most true. It is too often the case that those engaged in directing the works on an old church, conceive it to be their duty to bring it back if they can to the condition in which they consider it was left when first built,—or what is worse to bring it to a condition such as it might have occupied at some time or other, had certain ideas which they suppose to have been among the intentions of the first architect been carried out.

Many other examples of extravagant interpretation of the word "restoration," might be adduced. In putting our own interpretation on the word, we will take it in a very conventional sense. We will for the present quite ignore any more distinct signification of the word than that which every builder, and almost every architect, attributes to it, that is, the works which it has become at the present day customary to undertake, in order to remedy the long neglect and misuse to which most ancient churches have been subject,—and often also in order to enlarge or improve them, to meet such modern requirements as want of space, want of warmth, want of comfort, and the like.

Such works are going on now, on all hands, for a vast amount of zeal and liberality has rallied up to the cause of the diocese which attaches to those who live themselves in splendid dwellings, and allow the house of God to fall into ruin. Few architects are without some work of this nature, and many have had numbers of such "restorations" within a very few years entrusted to them, and it is therefore of the highest importance that as these works badly directed will be peculiarly injurious, they should be carried on in a right spirit.

As a work of art, and, at the same time, a work of local history, an ancient church has a value second to no other work either of art or skill which this country contains, and they who have the care of it have the responsibility of being public guardians of most valuable property. Destroy its antiquity, and its greatest value is lost; replace it with a copy, and you perform an act as directly of public robbery as if you were to cut to pieces the pictures of the National Gallery, and leave copies in their place on the walls. Carelessly or thoughtlessly replace broken fragments, or supply missing links, and you perhaps procure for your own careless work the reputation of being ancient, and thus damage the reputation of others, unknown now by name, it is true, but not on that account unworthy of renown, whose art was older and nobler than yours; or else you bring really ancient work into doubt, or even into disrepute, through your association of it with a copy.

There can be no doubt that very extensive works are necessary to churches, and always have been; but it is quite certain that such works as were undertaken down to the sixteenth century have seldom left much to regret, while those done after that day have produced the evil result we have above referred to, or in some other way have been equally re-

grettable. Why is this? What did the fathers do in their works of addition or reparation, or rebuilding, which we, their children, have failed in many cases to do in our turn?

What they did was simply this, they built always in a style suitable to Ecclesiastical buildings, but always also in a style of their own, and these we believe to be the two principles upon which all additional works to be done to churches should be erected.

The men of the seventeenth and eighteenth centuries acted upon one only of these principles—they always worked in their own style, and we ought so far to thank them for it. It is true that most of their work was entirely unsuitable to the character of the buildings, eminently inappropriate to churches, and such we remove it, and regret that in many cases it has permanently disfigured the churches. But in no instance will even an ordinary observer mistake an addition of the last century for an original portion of the fabric; and this being so, we suspect that a right-minded man will, in nine cases out of ten, be more grateful to the men of that century, clumsy and barbarous as some of their church alterations were, than to us. We have in countless instances replaced really fine old fragments by which, though it may perhaps claim to be in some small degree more appropriate, has no distinctive character of its own, work which, inferior in value to the original, both as being a copy, and also usually as being an inaccurate copy, is yet sufficiently close an imitation of it to occasion difficulty to those who desire to refer to the really genuine work in the church.

What we desire here, then, to urge is, not a mere repetition of what Mr. Scott has said, but so clearly urged, as to the necessity of intelligence, and care in copying mouldings, and in supplying lacunae in tracery, of abstinence from attempts to restore carving, and of an almost superstitious anxiety to preserve genuine portions of antiquity; we are content to leave that as he put it. But restoration works, as we have defined their meaning, do ordinarily imply the re-introduction of some features, as, for example, new setting or other furniture, sometimes renewed portions of the existing fabric, and very often fresh features; and we do urge that, as far as possible, these shall be so done as to show at once, and to all times, that they are unquestionably nineteenth-century work and none other.

This, a few years ago, would not have been even so practicable as it is now; and, at the present moment, is not so practicable as it will be some few years hence. But we maintain that it is right in principle, and not only so, but that it has now become to a very great extent practicable in execution.

It is not necessary to repeat here what has been said so often in this Journal, as to the reality of an existing style of architecture. Take the most recent works of our best men, and we find in them a strongly marked amount of coincidence and similarity sufficient to denote them as all belonging to one school, and yet a variety enough to mark them clearly as the works of original artists. At the same time they are such works as, in their general characteristics, stand quite apart from all previous time, and as will be at once referred by the antiquaries of future ages to this particular period of architectural history. Here, then, we have contemporary architectural character, and it is this character that we desire to see impressed on all our addition to, or alterations in, existing buildings.

It is always so easy, and always so dangerous, to profess a general congruity or balance of general features, harmony and outline, and so forth, just as the later Gothic builders did in their additions to original edifices; but it will not be at that account necessary to make believe that the new tower or the fresh porch, or the additional aisle we add was done at the same time as the rest of the building. Such a make-believe is not satisfactory, where it is transparent and consequently easily detected; it is unfair and deceptive where it is carried to such an extent as really to mislead.

Notwithstanding this, it does not necessarily hold good that every fragment replaced, shall be replaced by something essentially different. Where there exists an amount of decay such as renders necessary the removal of a portion or portions of old work, it may be slight if practicable to replace it with a close copy; if proper and possible, that where a close copy is not practicable, no copy ought to be attempted. The most respectful course no doubt is to leave the stone unworked, replacing carving by blocks left uncut, and mouldings by stones prepared for moulding only; but where this may not be, and copying is not of the simplest sort, let good and confessedly modern work be introduced, the best that the circumstances permit.

The subject is a serious one, we cannot, however, now pursue it further than to remark that the architect of a church restoration should make it a labor of love. Over and above the ordinary care, for which he is paid, he should devote to each work of this sort care and pains purely for the sake of art; and should think himself well repaid for even a considerable sacrifice of time and trouble, if he do but succeed in preserving our ancient and beautiful features from the mutilation, or mutilation, and in limiting the amount of new work introduced to the most moderate quantity possible.

#### ROYAL INSTITUTE OF BRITISH ARCHITECTS.

A SPECIAL General meeting of members only, was held on Monday evening, to receive a report from the Council, on Professional Practice and charges. As it was requested that the discussion should be considered to be of a purely private and confidential nature, we have not received any notice of the subject meeting. But we may say that the Council deserve the thanks of the entire profession for the production of the report laid before the members.

The meeting was adjourned for the further consideration of the subject.

## THE UTILISATION OF LONDON SEWAGE.

**I**NTIMATELY connected with the health and welfare of the inhabitants of large towns is the disposal of sewage, and no false delicacy should be allowed to prevent its study as a question of the highest sanitary and economic importance. The question to which food is subjected, after it has been eaten, has been trifled with by comparative neglect. It is consumed in the stomachs of animals, and the refuse dejected is, therefore, the ashes of food. But these ashes are different from those produced by coal or wood fires, inasmuch as they contain the essences of fertility—that is to say, the means for reproduction of fuel for the atmosphere. We may return cinders and ashes to the soil—not that we deny their manurial value—but they will not replace the ashes of coal or trees; whereas the ashes of food, restored to the soil, are taken up by grasses, vegetables, and cereals, to be transmuted by the recuperative processes of nature into food again, so that nothing is lost. The growth of crops, their consumption, and the return of their ashes to the soil which they have produced, are a regular cycle of processes, no one link of which can be omitted without stopping the others. If food be dropped off the land and its ashes not returned in the shape of manures, the soil is exhausted and rendered incapable of again producing food. In England we are placed in an abnormal and costly condition by the erroneous manner in which the sewage of centres of population has been disposed of—or, to be more exact, we should say wasted. Of the enormous quantities of food grown and imported here an infinitesimal quantity finds its way back to the soil. It is stored in cesspools until it loses its most fertilising property, nitrogen, which is evolved in the shape of ammoniacal and other gases, and discharged into the atmosphere, to breed disease, or it is carried into the streams and rivers, to poison the water we drink.

To remedy this evil waste we are obliged to pay for cesspools. To coprolites, and other manures, at a cost of several millions annually, while we are obliged to pay a further penalty in the shape of sewer rates for unproductive sewerage works.

What is the money value of this annual waste? Liebig says the price of nitrogen alone, produced by every 100,000 persons is £12,000 a year, and would suffice to manure 50,000 acres of any land with the accompanying phosphates, alkaline and neutral salts, and organic matter. Mr. Edwin Chadwick asserts the yearly value of dijets is £1 17s. per head. According to Professor Johnson the annual value of dijets for every 100,000 of population is £223,000; while Mr. Liebig estimates that the yearly actual value of the chemical constituents of the dry substance of dijets per head, leaving and a half of valuable fluids out of the question. For the sake of round numbers, we will take the population of the three Kingdoms at 29,000,000, though it is more, and will soon be 30,000,000 with the rapid decline of emigration consequent on the civil war across the Atlantic. Then, according to Liebig, the annual value of the products of dijets by the entire population, will be £3,480,000, and would suffice to manure fourteen million, and a half of acres of wheat land. Mr. Chadwick's estimate, based on practical observations in Belgium, shows the yearly worth of the total dijets to be £35,450,000. Professor Johnson makes the value of the fluid dijets of London, and Mr. Laws gives the worth of the chemical constituents of the dry substance £8,700,000. The highest estimate, it will be seen that we annually waste a sum nearly equal to the total amount of revenue raised by taxation, while, according to the lowest estimate, the waste equals the amount produced by the Income tax. To put the question in another form, if Mr. Gladstone were invested with the monopoly of disposing of our refuse, its present market value would enable him, if he utilised the fluids, to abolish custom duties and all other taxes, with the exception of four or five millions; and, if he limited himself to the constituents of the dry substance, he might in his next financial statement announce the abolition of the income and property tax.

Although the Chinese manure to return nearly the whole of the ashes of their food to the soil, it may be argued that we should experience too great a difficulty to collect the dijets of small centres of population. Admitting the validity of the objection, we reply that, according to the last census, there are 86 towns, with their respective populations above 50,000, whose aggregate populations are 7,365,601. The objection cannot, therefore, apply to them. And the highest estimate would make the annual value, in round numbers, of their dijets £1,615,000, and the lowest estimate would fix it at £2,218,660.

In the case of the metropolis, where the whole will be shortly collected, Professor Johnson's figures show the annual value of the dijets is £6,320,000, and Mr. Laws's, that it is £841,210. To this again must be added the value of the manurial substances carried down by rainfall into the sewer. The droppings from cattle, and pulverised granite from the pavements are of considerable value. Professor Wye stated in his report that,—"So far as London is concerned, and considering only the composition of the liquid which reaches the sewers in the time of rain from the streets, it seems pretty certain that it would be as valuable in a manuring point of view, as the ordinary contents of sewers."

It should be remembered that the figures and estimates quoted are the results of investigations of the subject by the most eminent chemists and agriculturists of the day, and are not put forward by speculators or the conceiters of joint stock companies. They are the calm, well digested, and carefully matured conclusions of science. Indeed, there has never been a question as to the value of the constituents of sewage. Their quantity and character can be accurately estimated, and as they are similar to the constituents of manures which we use daily, their market value is easily determinable. The only question, and it is a large one, is the extent of the crepancies in the figures quoted, is as to the extent to which the manurial

constituents can be recovered. If the whole of the sewage is applied to the irrigation of soil, then the highest estimates will represent the minimum economy, but, if only the chemical constituents of dry substances are applied as manure, then the lower estimate will represent the amount of annual savings. Consequently, when the Metropolitan Board of Works has completed, it will collect and discharge manure of the value of six millions and a quarter every year; and the question now raised is whether these millions shall be discharged into the Thames to waste, or rather to be brought back by the flow tide to breed a pestilence in the midst of us, or whether it shall be discharged on to the soil to increase its fertility.

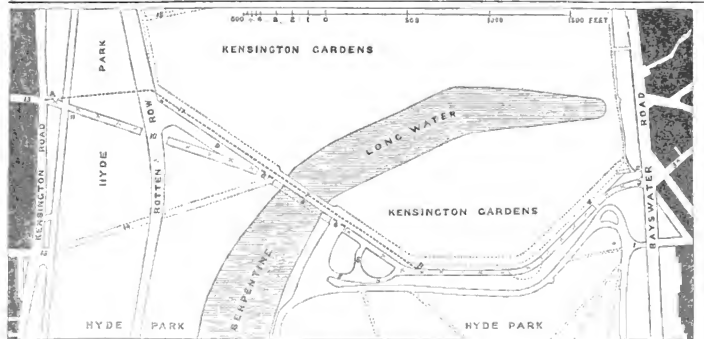
A proposition has been submitted to the Metropolitan Board of Works for applying the entire dry weather sewage of the northern area of the metropolis to the fertilisation of lands to be reclaimed on the Essex coast. For this purpose an area of 20,000 acres on the Foulness Sands and Dengie Flats is proposed to be enclosed from the sea. A brick culvert 10 feet in diameter is to be constructed from the main intercepting sewers at Abbey Mills passing to the river Crouch, a distance of eight miles. From this point two open branch sewers, seven and eight miles in length respectively, are to be built to convey the sewage on to the reclaimed lands. In the line of the brick culvert—at about the ninth mile from Abbey Mills—are to be a lift of 30 feet, and a pumping-engine of 1,200 horse power. Arrangements are to be made for distributing portions of the sewage to farms along the line of the culvert at such distances from the centre of population as to create no nuisance to them. The surface soil of the areas to be reclaimed and irrigated with sewage, consists chiefly of an admixture of sea sands and fluviatile silts. It is not deemed necessary to provide subsoil drainage, but merely to place a catch drain inside the line of embankment to receive the surplus water from sewage after irrigation, for discharge into the sea through ordinary sluices. The estimated cost of the works is £2,000,000. The advantages of the scheme, besides the great and cardinal one of utilising sewage, are saving the expense of deodorisation which the Board would have to incur in hot weather, and diverting sewage from the Thames, so as to prevent all pollution. Arrangements are to be made for bringing back to the metropolis. What would be the cost of deodorisation we have no data for estimating, but that it would be considerable and a permanent heavy charge upon ratepayers we may be certain. Equally sure may we be that, if the sewage is discharged into the Thames at Sea-reach, it will, in the course of time, be carried back after bridges by the tides, to form mud-banks and perpetuate the nuisance we are endeavouring to get rid of. The proof that such will be the case will be found in the fact that the salt constituents of the sea are carried up so far as to furnish traces of brackishness at Battersea. The evidence of Mr. Goldsworthy Gurney, in his report on the state of the Thames, supplies additional proof that such would be the case in consequence of the superior power of the upcast over the down. The city of London, for example, has carried fourteen miles up the Cornish tidal river, Camel, against the freshet. Lastly, it is something to add 50,000 acres of food-producing soil to the area of England. As to the practical and engineering merits of the scheme, we have the authoritative conclusions of Mr. Bazalgette—that—

The tract selected appears to be well adapted to the reception of the sewage, and is, indeed, one of the best that could be selected. The site is high, and the soil, of its kind, there would be a reasonable prospect of its receiving advantageously so large a constant discharge of sewage, without creating a nuisance to the surrounding district. That the works have been carefully considered and well designed, and the estimate is fair and sufficient, and that the proposition is the only one the promoters of which have, by depositing plans, placed themselves in a position to carry out during the coming session of Parliament, and so far as its engineering character and details are concerned, it is thoroughly practical, and deserves the favorable consideration of the Board.

Let us now glance at the advantages which would result to the ratepayers from the adoption of the scheme. The Board of Works are to grant to the promoters an absolute and exclusive privilege for the disposal of the sewage for fifty years, in return for which they are to share equally with the promoters the net profits after 10 per cent. has been paid upon the capital, and in the profits from the sale of reclaimed lands, after deducting the dividend and cost of the works. The Board are further to be empowered to purchase the works at the expiration of the lease, giving seven years' notice of fair valuation at £50,000. The Directors of the Board of the promoters' Company. What pecuniary gain would accrue to the ratepayers there may be some difficulty to accurately determine; but, from experience elsewhere, we can make a tolerably fair guess. To pay 10 per cent. dividend on capital would require £200,000. The poorest position of Craigmiln farm, irrigated with Edinburgh sewage, gives an average of yearly rental of £18 an acre. Accepting this data—that the rental would be much higher, will be evident when it is remembered that the prices for agricultural produce run much higher in the London than in the Edinburgh markets—the reclaimed estate on the Essex coast would yield a rental of £360,000. If we deduct the dividend there will remain £160,000 to meet the expenses and interest of the works. The works and the promoters. The working expenses are not stated, but we shall probably not be very wide of the mark in estimating at £50,000 the Board's share of the profits if the above provisions be realised. Do the ratepayers deem it worth while to run a chance of earning this amount without incurring any pecuniary risk or liability whatsoever; for that is the real question.

The sum which the Board of Works "stand to win" would enable them to reduce the rates they levy by nearly one-half. Is this of no importance to the heavily-burdened ratepayers of the metropolis?

When the motion to accept the proposal of the promoters was brought before the Board by gentlemen from whom it was our misfortune to differ on principle, and on this subject, the following arguments were used for a month by a division of 17 to 13 on the most futile pretexts. One was to



PLAN OF SUGGESTED LINE OF ROAD ACROSS HYDE PARK.

References to Plan:—

1. Victoria-gate.
2. Back hill-gate, with entrance as at present.
- 3a. Westbourne-street.
3. Entrance to Proposed New Road from the Bayswater-road, and opposite to Westbourne-street.
4. New entrance to Kensington-gardens, over proposed new roadway, avoiding thereby the necessity of crossing it at the same level. Between the points 3 and 4 there is an existing difference of 15 feet in the actual area.
- 5, 5, 5. Suggested development of Park carriage communication with the Kensington side of the Serpentine.
6. Tunnels on either side of bridge, so as not to interfere with the present entrances to the Gardens.
7. Bridge across the Serpentine, the proposed roadway to be carried underneath it and through piers of arches; the surface of road being 4 feet below level of water.
8. Site for a temporary bridge of boats during the Exhibition period, as those would not be time to finish openings through the bridge.
9. Development of communication between Rotten-row, with the Kensington-road, and which the passage of the proposed new road offers.
10. Tunnel under Rotten-row.
11. Development of Park carriage communication with those existing on the Bayswater side of the Serpentine.
12. Exhibition road.
13. Line from bridge suggested before the Exhibition-road was formed.
14. Prince's-gate.
15. Broadwalk through the centre of Kensington-gardens.
17. Platform for band.
- N.B.—The dotted line from A to B suggests by a subway an additional means of more removing the road from public view. This suggestion would, however, lead to greater expenditure.

enable other parties to send in descriptions of their schemes; but the Board have waited already five years, and the only practicable one sent in, according to the evidence of their own engineer, is the one they have postponed; another pretence was that, as the sewage is valuable, the Board should not give away "what was the property of the ratepayers and could be used for their advantage." But the Board are not asked to give away property. They are offered an equal share in the net profits after paying a fair dividend on the cost of the works, which the Board could never carry out themselves. The last excuse to which reference will be made was "that the sewage would be spread over sand, which would not imbibe ammonia, that it would create a nuisance by polluting the air with malaria, and would affect Malden, Chelmsford, Southend, Gravesend, Deptford, and the metropolis" (!) Whether sand would or would not imbibe ammonia may be left aside in presence of the fact that one portion of the Cragentiny farm is formed out of hillocks of pure sea sand, and of the vegetation thereon absorbs in a single night the properties of sewage offensive to animal life. But the investigations of Dr. Volcher showed that sandy soils, independently of the vegetation with which they may be covered, do absorb "but little ammonia, and likewise not much potash," and that the addition of lime, just as soils are regularly limed, will cause the sewage to give up its ammonia, while a sandy soil greatly deficient in lime will abstract lime from sewage.

#### FIRST CITY OF LONDON ENGINEER CORPS.

ENCOURAGED apparently by the remark of Sir J. Fox Bagny, that "no body of volunteers can be more likely to turn to useful account in case of being brought into the field against an enemy than one organised as Engineers," the promoters of the City of London Engineers are forming a corps to supplement the regular forces of war, and effect the destruction or formation of railways, bridges, roads, and works of defence. The corps is to be composed of architects, civil and mechanical engineers, builders, artisans, and other scientific persons, and we believe there are many in London of these professions and trades who will join such a corps, if only on account of a course of instruction in military engineering, which will be immediately entered upon by the commanding officer Lieut.-Col. H. G. Man.

It is noticed as being remarkable that the City of London which has contributed so largely to the volunteer forces should, until recently, have been deficient as regards volunteer engineers, while other large towns have such corps.

We understand that her Majesty has been pleased to accept the services of the 1st City of London Engineers. Facilities are offered for the accession of artisan members. The head-quarters of the corps are at Church-court-chambers, Old Jewry.

#### SUGGESTED LINE OF ROAD ACROSS HYDE-PARK.

Seeing that credit is being given to others for the suggestion, Mr. Harry R. Newton claims to be the original proposer of a new road, following the line of division between Hyde-park and Kensington-gardens, and forming a channel of communication between Bayswater and the surrounding neighbourhood, and Kensington. The drawings (from which the plan given above has been reduced) were, it appears, prepared in the early part of 1856, and on several occasions since that time the author has urged the desirability of arrangements being entered into between the Government and the parishes for its formation.

The following among suggestions relating to the proposed road, which is to be sunk below the general level of the park and gardens, will explain the author's intentions.

A. That as it is important to have a road at once, on account of the International Exhibition, that it would temporarily relieve the financial difficulty to the parishes, Exhibition authorities and others, if the road were opened at first only for day traffic, the parishes, &c., being enabled to open it for night traffic, as soon as the means could be found for railing the road off and providing the lighting it with gas.

B. That for the present urgency, a bridge of boats across the Serpentine, on a level with the intended road, offers a momentary alternative and admits of delay for considering maturely the difficulty of passing the Serpentine.

C. That as the public traffic along the intended road would not be "heavy traffic," it ought to be considered as much for a development to the Park as a public road, so as to render carriage communication between existing park roads on the two sides of Serpentine complete in their circuit.

D. That the foregoing would induce economy of expenditure at the junction of the intended road with the Kensington-road, as at any future and probably remote time, and when the public traffic had increased, the road proposed could then as easily as now, be separated from the Park altogether at that point.

E. That the intended road offers an opportunity for developing the communication between Rotten-row and the Kensington-road, greatly to the convenience of the equestrians, and for considering, as the park and gardens at the junction of the bridge are so crowded, at various and uncertain times, by pedestrians of all ages, whether the route for equestrians now across the bridge, might be diverted into the intended new roadway.

G. That the carrying the road through the piers of the bridge is believed to be the cheapest mode of passing the Serpentine, for preserving the circulation of the water, and for the concealment of the road from the general view, so as not to interfere with the appearance through the arches, obtaining this by keeping the surface of the roadway some 4 feet below the water level, but as even this would form a considerable item of expense, that it might be a question to consider, whether with but little addition to a sum so required, a fund would not exist sufficient to enable the bridge to be widened, carrying the public road through the piers of new part, thus obtaining increased communication on two levels, the lower one for the public traffic, and the upper one for the park. If,



THE QUEENS RAILWAY HOTEL, (HESTER.—MR. T. M. PEARSON, ARCHITECT.

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therefore, this was thought a park development, perhaps the Government might consider it was justified in providing the means, not for the lower roadway but for widening the bridge.

H. If this public route is at all considered objectionable, on account of noise, dust, &c., at certainly the most pleasant part of the park and garden, another route is indicated for carrying a carriage road, and the present road would walk on either side of and through the piers of the bridge, but though all possible inconvenience would thereby be removed, the adoption of this suggestion would be attended with increased expenditure.

#### ON THE CONSERVATION OF ANCIENT ARCHITECTURAL MONUMENTS AND REMAINS.\*

AND what is the state of the restored church? The external stonework is in a good repair, but the antiquity of its details is dubious. The windows are of the chronological sequence of the thirteenth century, and the pavement. The internal stonework has thrown off its coating of whitewash, but it has been re-worked, and all the toolmarks of the old masons scraped off by the malleting, or chipped away and replaced by modern toolings; the plastering is done to perfection, but it projects in sundry places, and the round stone dressings, and has replaced what was a storehouse of the relics of decorative painting; the roofs are of stone, or, display all the smartness of stain and varnish, but the old timber-work we value is gone, and what now appears is not even like it; the floor is, perhaps, of the uniform mass of a Staffordshire farmer's kitchen, or, it may be, displays all the glories of encaustic tile; but the memorials of the dead have perished, and the works of Mr. Milton (to which they have fallen victims) have scornfully casted those of his teachers, and the local parsons of olden times have given way to those who now reside stately from one end of the country to the other. The windows are mainly glazed with cathedral glass, and some of them with stained glass of reasonable merit, but the air has thrust out the fragments of ancient glass-paint, and while the other windows are new, the old ones are left to the sculptors by their designs. The bells have been capitally reared by Meers and Warner, and their tones are, no doubt, musical; but if you go up to look at them, you find the ancient fretted border replaced by some vulgar beading, and the pious and beautifully lettered legend by the name of the founders and the churchwardens in lettering which would do honor to a haberdashery's shop.

This is a fair statement of an average church restoration; but there are many worse, as well as many better cases. The great majority, I grieve to say, are very far worse. We find the smallest reverence to its ancient type. Whether the destruction of old work, united with an intense want of feeling in all that is done anew; so that the church has become equally sickening from what it has lost and what it has gained.

In others, again, we find an *utter blank of interest*—a church reduced to a state of uninvolved lukewarmness. I have recently been especially struck, in making a little tour, with the prevalence of this last-named type among restored churches: a nameless blank,—either anything interesting left, nor anything good introduced; and yet I was everywhere told that this was the process. Viewed as a whole, was much the same as that we are all in the habit of applying in our restorations, the chief difference lying in the degree of conservative feeling and of artistic skill with which it is applied. My great perplexity is to find that, on the one hand, the work is so utterly altered, or whether the whole question is one of details and of individual cases, each to be decided on its own merits.

Now let us consider for a moment what *should be* the beau-ideal of a restored church.

First, of all, we should have all its structural dilapidations so far repaired as to secure it against actual danger, and to insure its stability.

The external stonework would be so far repaired as is necessary to bring out the architectural form where seriously decayed and mutilated, and to render the structure of the walls sound and durable. This would be done, not on a *wholesale* principle such as could be described in a specification, but in a *tentative and gradual* manner: first, replacing the stones which are *entirely* decayed, and *entirely* feeling out the decay, and then, as the work proceeds, replacing the stones which are *partially* decayed, and *partially* feeling out the decay, and so on, until the whole is in a state of repair, and the mode of workmanship, for there is a character even in the proportions of ancient stones, and in the mode of working them. When a patch is put in, or in any great degree wanting, it is questionable whether it would be supplied beyond the extent of existing evidence; when later features have been interpolated, it is yet more questionable whether they would be removed. Such questions must depend upon circumstances, such as the merits of the original work, and the interpretation, and upon the question whether the latter is in a state to demand thorough reparation, and whether the original features preponderate and give their character to the building. Such questions, too, would have been answered upon, with a strong leaning against alteration; and this would show itself clearly in the result.

The interior would, it is true, be divested of its whitewash; but where this would not come off by fair means it would be more or less left, for a little discoloration of the stone is infinitely less moment than the obliteration of the ancient tooling, so that in cleaning it *no hard tool must ever be brought to bear upon its surface*. Where the stonework had been colored or decorated in distemper, the traces of this would be preserved with a loving care, no matter how indistinct or fragmentary they may be.

The plastering may to some extent be retained; but wherever the old coloring could be preserved portions of the plastering would be left, and the new would be, like the old, *thin*, and not projecting beyond the stone dressings. The roofs, if ancient, will have been studiously *trying* to be as near to the original as possible, which can be made to do its duty, even though the roofs may not be of the original date or pitch.

The floor, though levelled and made free from damp, will retain all its monumental slabs in their true places, and the ground will be settled in a firm and subordinate to them, and of the material which, so far as can be ascertained, was before used, whether stone or tile. If old encaustic tiles remain, they will receive all due honor and protection, and new ones will be founded on their patterns.

\* A paper read by G. G. Scott, Esq., before the Royal Institute of British Architects, read from page 22.

The seating will probably be the carrying out of such parts of the old seating as may have remained, all old seats, &c., being carefully preserved, and that in their own proper places. Where ancient features, as niches, &c., have been ruthlessly destroyed, they will have been carefully traced out, and either exposed to view and left to speak for themselves, or, if sufficient traces are left to suggest the form, which is often the case, they will be carefully traced out, and then, with religious accuracy restored to their original forms, or all part being disturbed, and every old fragment worked in.

The fragments of old stained glass would retain each its own place, and if new glass be introduced, it will be made to correspond to the old, and to the design which they suggest. In a word, the old church will, by a *studious and tentative* process, have been brought into a newly state without any marring up of old weather-beaten surfaces, and without any loss of ancient or traditional character. In such fitting and necessary cases, the work will be done by a guide, for it will be felt that the restorer united the ability to carry out the spirit of the old work with a desire to limit himself to the smallest possible sphere in the exercise of it.

There is the true ideal; but, as I have before said, it is by no means easy, and often impossible, to realise it. The extent and intensity of the decay of the materials, the shattered condition of the walls, the extent of laborious mutilations, and the necessity for enlargement or other practical alterations to meet present wants, all militate more or less against it; yet it is still the *spirit* in which the work ought to be undertaken, even when it can only be partially attained; and I fear that it is not by any means the spirit with which such works really are undertaken. On the contrary, it seems as if many promoters of these works, and those who employ them, have no other object in view than interesting features, even when a general restoration is not carried out. I passed the other day through a village (Edinburgh, in Kent) where a few years before had been a sketch of a great peculiarity, such as I have only seen one other instance of. It was one whose tracery was arranged especially to give scope to a crucifixion in the stained glass. I went to look at it again, when, to my dismay, I found that it had been singled out from among all the windows of the church, and that the window was being removed. I asked the architect, in a church near Reading there were many beautiful remains of painted glass of the beginning of the fourteenth century, in the heads of the window lights, which I took much trouble to get tracings of. The church was "restored," and they all disappeared.

The noble church of Cleary-on-Sea, in Norfolk, had, when I saw it three or four years back, an original roof of the fourteenth century; certainly much decayed. It has now, I hear, been replaced by one of the meanest and most conventional of the nineteenth century, and the original type. Whether old tracings are found the clergy set themselves especially against it. In church I was myself engaged upon in Cheshire, the whole walls were found covered with large figures and other decorations of a most interesting character. The roof, however, was decayed, and the architect, who was the builder's foreman with dismissal if he carried out the sentence, but they cleverly allowed the question to go by default, and let them be destroyed by exposure to rain, while the roof was uncovered. In another place the gentleman who paid the architect, and who was the builder's foreman, was the builder's foreman, but while his back was turned, a workman, supposed to be bribed by another parishioner, elapsed it off. Even at Eton College, where the walls above the stalls were found to be covered with two ranges of old-paintings in the manner of the fifteenth century, the architect, who was the builder's foreman, was the builder's foreman, and the other range covered by canopies which had never existed on the old stalls. This act of vandalism I saw myself being perpetrated. And so it is all through the country; the most interesting features of our old churches are being destroyed, and the careless, the prejudices, or the deliberate barbarism of those who have to do with them. Nor can the architect in all instances prevent this. I have now a church in hand where, an enlargement being necessary, I had arranged it with special reference to preserving a curious fragment of external sculpture; but the builder, who could not conceive why so scrupulous a bit should be retained, took it down, asking no questions, and, in spite of my earnest remonstrance, has gone on finding one after another of old work to be too far gone for retention, and has been demolishing, for which the church was celebrated, periodical, and exposure; indeed (having no clerk of the works), I was obliged to threaten the builder with extreme severity to induce him to spare anything at all. The fact is, that unless one is always at the spot, or has there a representative imbued with the right feeling, the church will be ruined, and the old work will be lost to be rebuilt, and sometimes, I fear, when the architect is on the spot, he does much the same thing, and perhaps even avails himself of his proximity to press with the greater success his anti-conservative suggestions and arguments.

Secondly, the suggestions of a few anti-conservative architects, and of a few First, I have found it in some degree useful to have a code of rules and suggestions drawn out and lithographed for the guidance of clerks of the works and builders who are engaged in restorations. I take the liberty of laying one of these papers on the table, but will mention that they are of little use unless constantly pressed personally upon the attention of the parties concerned.

Secondly, The great enemy to careful restoration are contractors. The best course would be to carry them out by day-work, feeling one's way in the most timid and careful manner, and with the understanding that they are of little use unless constantly pressed personally upon the attention of the parties concerned.

Thirdly, It is highly desirable to not to uncover a roof at all at once. When re-roofing the roof is not to be done, it is not to be done in small parts, and keep the rain out by temporary expedients as you go on.

Fourthly, It is often the case that the exterior of window tracery is hopelessly decayed, while the internal half remains sound. In such cases I hold the proper course to be the removal of the outer half alone, attaching the new work by piers and buttresses, and retain one-half in its original form, and ensure the correctness of the other half.

Fifthly, Patching and piecing, if done carefully, are infinitely preferable to more wholesale renewal. The various cement which we have now at our command is so useful in introducing the smallest pieces into decayed or mutilated moldings, which was formerly impracticable. Where the injury, however, is unimportant, it is better to leave it untouched.

Sixthly, Never trust a clerk of the works, or any unpractised hand, to obtain the sections of moldings, or the forms of other features to be restored. It is often difficult enough to persons whose eyes and whose instincts have been







activity. Vasari, writing in the middle of the sixteenth century, vaunted that such was the fecundity of art and facility of execution in his time, that six pictures could then be painted within the time occupied by the previous generation of painters on a single picture. The simple-minded historian of art seems to have been hardy enough to repeat this remark, but he has not observed, although it is true he has elsewhere amused his readers by the anecdote of an eminent painter who, at his meal, when called to his meal, replied that he would come directly, "for he had but one saint more to paint." It is of Borromini, the growth of the sixteenth century, that the progress of civilisation brought into existence hosts of artists and of patrons of art. Papes and Potentates vied with each other in the patronage of it, and even kings would condescend to bid against each other for the corporal possession and exclusive monopoly of some favorite position.

The consequences of such excessive stimulus were obvious and inevitable. Prosperity bred reckless and careless extravagance, and extravagance led to a rapid deterioration.

The real laborious artists of the fifteenth century wrought, no doubt, slowly and carefully,—and onwards to so much a thought, a labor, or applause, as by a deeply felt love of their art; whilst the flattering crowd of artists who filled the scene in later times were the spoli children of fortune, painting and carving and building with wonderful dexterity and readiness of execution it is true, and with a wonderful facility of invention in devising new shapes and fashions and fantastical combinations, but without that earnest, ardent, painstaking, and simple severity of study which had conducted their forerunners to real excellence.

By way of illustrating the vast change that had taken place during the sixteenth century, let us compare Bramante, the first of the great architects of the beginning of that century, with those of Borromini, who was born at the end of it. I have on a former occasion dwelt on the peculiar merits of Bramante. His was a pure, honest architecture, perfectly free from affectation and conceits of any kind whatever. His style appears to me to be all the more captivating from the very absence of all conceits and affectation, and all the more effective from its manifest freedom from self seeking after effect.

If we turn from him to Borromini, we shall be shocked to see what deviation and corruption of taste had taken place during the one hundred intervening years.

The one sought to charm by his purely architectural feeling, aiming, for the most part, at those high qualities—order, symmetry, and rhythmical arrangement—whereas the great father of architecture, Vitruvius, had long before pointed to the distinguishing character of good architecture; whilst the other set at defiance all order and moderation. The one never failed to draw a straight line, unless the requirements of his work seemed to render a curved or a broken line preferable for some special purpose; and surely a straight line seems to be, of all others, the line of architectural fitness, and therefore of beauty; whereas, Borromini must evidently have abhorred such a thing. He it was who, of all men, contributed most to the introduction of that system of architectural design (if it can worthily lay claim to the dignity of a system) by which masonry lost its special character, and its most appropriate forms. His facades curved inwards or bulged outwards on their plan, as if made of wax, and he was fond of yielding and plastic substance; and his pediments, totally forgotten of their primitive form, offered every variety of intricate convulsion and distortion.

Bramante called in the aid of sculpture with that discretion and caution which place indicated he was highly to be commended for. He used it as a title and application; and as if he feared to vulgarise it by too frequent a use of it, or by excess of any kind. Yet, highly as he appreciated sculpture, he never permitted it to encroach upon the proper limits of his own special art. Sculpture was used by him as an architectural ornament, as it is calculated to add real value to his work, and to give it a grace beyond the reach of mere architecture.

Borromini, on the other hand, permitted sculpture to dominate over the main object of his art without restraint; his whole building was literally sculpture, and his masonry was left to the humbler duty of forming a mere vehicle for the consideration of some fantastic piece of clay modelling. Such had been the downward progress of architecture during the period to which I have been addressing.

It must not, however, be supposed that the transition was sudden, or even rapid. The activity and energy of the sixteenth century were wonderful, and led to perpetual changes, and were constantly giving birth to novelties. New schools were founded, and eminent masters appeared in rapid succession, and of most opposite characters. Sansovino, with his superabundant wealth of sculptural ornaments; Palladio, with a more restrained and noble taste; and Michelangelo, with his fellows; Michelangelo, whose length of life enabled him to see out most of the brightest lights of Italy, although he was himself a fellow-laborer with some of the earliest and ablest masters of the great Italian Renaissance. Still, though the school of architecture was not so much in decay, as it was by the time of his death, the art lost its dignity, and became frivolous and trifling. Every part of a building seemed to be, as it were, in restless movement; curved lines were broken and inverted; straight lines were perpetually interrupted or diverted, and all smooth was frittered away by a multitude of lights and shadows.

It was worthy of note, how low the standard of taste had sunk between our art and that of the sculptor. Whether dignified and severe, noble or mean, natural or conventional, grand or grotesque, those two sister arts seem ever to have proceeded hand-in-hand; for ever sharing the same fate; rising together into greatness and sublimity, and together sinking into paltry and imbecility. Without going too far back into the history of art (although in remotest times the sympathy between the two arts was eminently conspicuous), we shall find the observation hold good in Medieval art. The culminating period of ecclesiastical architecture was precisely that in which the best sculpture flourished, and as distinguished by high sculptural excellence. The quattro-centist introducers of modern art in both these branches shared like feelings, and were remarkable for like excellences. The sculpture of Donatello, like the architecture of Alberti, was alive, vigorous, original, and full of delicate and delicate, and high qualities being in both arts of a similar kind, and of a similar degree of hardness and rigidity. In Michelangelo we find the same colossal and masculine breadth, whether we regard the examples he has left us of his sculpture or of his architecture.

The evening, we shall find the same debasement pervading the two arts. I have already said that one of the marked characteristics of the architecture of the seventeenth century was that of restless movement; so also the sculpture of the seventeenth century exhibits, in an especial manner, the absence of that tranquil

dignity which is particularly becoming in sculpture, especially when applied as an accessory to architecture. A want of repose is almost equally offensive in both the arts. The eye is fatigued and the attention distracted by an excessive flutter in the details, whether we contemplate a building or a group of figures. Borromini set an example, but Borromini lived far before the time of the Virgin treatment of the sculptural accessories of their respective buildings. Indeed, one of the most repulsive faults of sculpture at this degenerate period was its utter want of repose and the inordinate love of representing agitated drapery.

It is said by Milizia, that Altieri, who was the first to imitate Borromini, was a pattern of sobriety in this respect, he yet knew enough of his art to condemn the fault in others. Remarkable, on one occasion, the extreme agitation of St. Veronica's clothing under the dome of St. Peter's, he sarcastically inquired of the sculptor, "how could the wind blow so much under the dome of St. Peter's?" The sculptor, seeing that he stood protected within the walls of the edifice. The sculptor, fortunately for him, had an answer that effectually disconcerted the critic: "The wind," he replied, "obviously came through the serious fissures in the masonry of the dome, occasioned by the dome of St. Peter's." Borromini having shortly before somewhat really interfered with Michelangelo's piers, by the insertion of colossal niches excavated out of the substance of those piers. Such were the mutual recriminations of those two most eminent artists, who contributed so largely to the degradation of their art. I am content that I am sure no extravagant or inordinate expressions, when I designate the architectural sculpture of the 17th century, in its treatment and mode of introduction, as ridiculous and absurd. Their sculpture may probably have been designed with boldness and energy, and often with a certain grandeur, but it cannot justly be charged with tameness or insipidity. Its faults were, indeed, exactly the reverse. There is a grotesque energy, a violence of gesticulation, which, is perhaps, very true to nature, if we seek nature in the wine shops of the Campagna, or among the Lazzaroni of the Eternal City; but, in the case of sculpture, it is a violation of nature in condemning that style of nature as unfit for the study and imitation of sculptors.

A painter may, with perfect propriety, impart whatever degree of violent action his subject may demand; his pencil undertakes to realise to the eye the actual action of his subject, and he is to be reproached if he does not. A sculptor, on the other hand, realises on the canvas that intensity. The case is, as it appears to me, far otherwise with the sculptor's art, at least when it is applied as the accessory embellishment of architecture. Statues in niches, or on balustrades, or otherwise, in a building, must, I should think, be subdued, both in attitude and in treatment.

#### SOCIETY FOR THE ENCOURAGEMENT OF THE FINE ARTS.

THE Annual General Meeting of this Society was held at the Architectural Gallery, Conduit-street, on Thursday evening, the 9th inst., when the following gentlemen were present: C. DUTTON.

THE CHAIRMAN said that the President of the Society, the Earl of Eilemere, who was not of town, had been consulted respecting the propriety of presenting an Address of Condolence to the Queen on the irreparable loss which the Fine Arts of the country had sustained in the death of Prince Consort. The noble Earl, in his reply, said:—"I think that, considering the late lamented Prince Consort's enlightened patronage and support of everything connected with Art, nothing can be more appropriate than that the Society should express its condolence to the Queen on the death of the Prince Consort, and they have peculiar reasons for appreciating it. I shall be very willing to sign it in my capacity as President."

Mr. JEWELL moved the adoption of the following Address of Condolence to Her Majesty, which had been prepared by the Council:—"We, the undersigned, your Majesty's most dutiful and loyal subjects, the President, Vice-President, Council, and other members of the Society for the Encouragement of the Fine Arts, venture to approach your Majesty with feelings of devoted attachment to the Fine Arts and person, most respectfully to offer to you our heartfelt condolences in the deep affliction with which it has pleased the Almighty to visit your Majesty. In the premature death of his Royal Highness the Prince Consort, upon the admirable qualities which illustrated also the public and the private conduct of his Royal Highness in his exalted station, it is not for us on this occasion to dilate; the respectful gratitude of an entire people recognises them; the page of history will be their enduring record. But in one particular the character of his Royal Highness was especially distinguished, and his course of action marked out to ourselves (and honor be to all other great spirits of his age) a noble and instructive example, his example, which will promote the application of the lights of science and the dictates of correct taste to the labors of industry, his enlightened patronage and encouragement of the fine arts, and his generous and disinterested efforts to improve the condition of the poor, and improving influences amongst all classes of the community. Under those circumstances the death of his Royal Highness occasions a loss which this Society, with the objects which it has in view, cannot but feel to be irreparable in its effects. We, therefore, in the name of them all, express to your Majesty our sincere condolence for the loss of your Majesty's late beloved servant. That your Majesty may long live to preside over the triumphs of a loyal, devoted, and happy people, is the humble prayer of your Majesty's dutiful and affectionate subjects, the members of this Society."

Mr. ATKINSON seconded the motion, which was unanimously agreed to. Mr. HENRY OTTELEY, Hon. Sec., then read the following report of the Council.

THE COUNCIL on the occasion of the third annual meeting of the members of this Society are happy to be able to report most favorably of the progress, and of its future prospects. The main business of the Society has been the consideration of the question of the proposed amendment now to 200, upwards of 60 having been added since the close of the last session. Amongst the new members, the Council have pleasure in recognising the great addition to the list of contributors to the Society, and the fact that the Society have given the best practical evidence of their approval, and sympathy with its objects. Additional strength, however, would still be desirable to enable the Society to carry out with greater efficiency the scheme of operations contemplated at its formation. The Council, therefore, venture to hope that members who by experience are aware of the usefulness of the Society, will exert their influence to procure amongst their friends any persons who are desirous of contributing to the Society, and who are prepared to give forms of application for membership have been prepared, copies of which, members are invited to provide themselves with, to be made use of as occasion may serve.

A price list of the Society's publications, and a list of the members who have been corrected down to the present date, will be issued to all members in the course of the current month. A new edition of this book, with the list of members only revised, will be issued at the commencement of every year.

\* To be continued.



## SANITARY CONDITIONS OF UPPER AND MIDDLE CLASS DWELLINGS.



**S**ANITARY reformers and wealthy philanthropists appear to have been so intent upon improving the dwellings of the laboring classes, that they have sadly neglected the condition of their own homes, until they are made to pay the penalty for disregard of cleanliness in the shape of increased preventable mortality. Their conduct is a melancholy illustration of a tendency to wish to pluck the weed from a brother's eye and not see the beam in our own. Not that we are insensible to the advantages which have resulted from the labors of the rich to ameliorate the state of the habitations of the poor; but that we believe cleanliness like charity should begin at home. Example is a far more influential teacher than precept.

The report for last Saturday week of the Registrar-General on the health of the metropolis, reveals the sad fact that in the week preceding the rate of mortality had increased. The total number of deaths was 1,561 in that short space of time. The average number of deaths in the corresponding weeks of the ten previous years—corrected for the increase of population—is 1,440. Making the same correction, it will appear that 17 deaths occurred daily in the last week tabulated, over and above what should have been the death-rate according to averages, if no disturbing influence had been introduced. The increase beyond is much greater than it appears to be, when

we take into consideration that every year beholds an extension of drainage works, and a general improvement in the conditions of life within the metropolitan area that should go, but for the influences just alluded to, in the reduction of the average mortality. An increase in the average represents more than mere figures show; it points to the neutralisation of sanitary improvements. For all practical purposes so far as regards the saving of life, the enormous and costly improvements effected during the last ten years have been utterly useless. The money has been thrown away; for the metropolis is in a worse sanitary condition than it was during that period. To what extent it is worse, may be represented by saying, that the influences inimical to life are 1-4 per cent. greater than they have hitherto averaged, or that a Londoner's chances of life are diminished something like one and a-half per cent.

In presence of an increased death-rate, the first thing is to seek for its causes. Defective drainage cannot be the only one for, on the whole, it has improved, although in some localities it may be worse. There has been no fall of temperature till the last week to account for the excessive death-rate, for it has been 7-2 degs. above the average of the corresponding weeks during the last forty-three years. On three days the temperature was from 12 to 14 degrees above the average in warmth. Consequently, so far as thermometric influences are concerned, there should have been a diminution in the average mortality. Trade was not exceptionally bad, and if there have been want of employment and stunted food, they have certainly not gone beyond the average. Up to the present time the poor have not been exposed to unusual sufferings. We are, therefore, driven to conclude, in the absence of epidemic and of everything in the shape of contagious diseases, that the causes of an unusually high death-rate are to be sought in the water supply, and in partially defective drainage; and the data supplied from authoritative sources justify these conclusions.

First, as regards the water supply. We will take the three periods of 1851 before the companies were compelled to filter their supply, and to take it from purer sources than formerly; 1856, when the improvements had come into effect, and the last month of 1861.

		Organic Impurity Per gallon.	Total Impurity Per gallon.
Grand Junction.....	1851	..... 1-38	..... 22-29
"	1856	..... 1-38	..... 22-29
"	Dec.. 1861	..... 1-80	..... 21-36
West Middlesex.....	1851	..... 2-75	..... 22-67
"	1856	..... 0-86	..... 21-03
"	Dec.. 1861	..... 2-40	..... 21-76

		Organic Impurity Per gallon.	Total Impurity Per gallon.
Chelsea.....	1851	..... 2-38	..... 21-28
"	1856	..... 1-45	..... 22-50
"	Dec.. 1861	..... 1-76	..... 19-72
Southwark.....	1851	..... 1-51	..... 21-08
"	1856	..... 1-37	..... 21-10
"	Dec.. 1861	..... 2-40	..... 21-86
Lambeth.....	1851	..... 2-39	..... 22-40
"	1856	..... 1-33	..... 19-84
"	Dec.. 1861	..... 2-04	..... 20-44
Kent.....	1851	..... 2-61	..... 22-71
"	1856	..... 1-37	..... 21-10
"	Dec.. 1861	..... 2-04	..... 25-16
East London.....	1851	..... 4-12	..... 23-57
"	1856	..... 1-09	..... 22-05
"	Dec.. 1861	..... 1-38	..... 21-98
New River.....	1851	..... 2-79	..... 19-50
"	1856	..... 0-608	..... 21-78
"	Dec.. 1861	..... 0-72	..... 19-72

A comparative analysis of these figures will show that the organic impurity of the water we use to drink and cook now, has been augmented beyond that of the water in 1856 to the following extent:—Grand Junction, 0-42 deg.; West Middlesex, 1-44 deg.; Chelsea, 0-34 deg.; Southwark, 1-09 deg.; Lambeth, 1-03 deg.; Kent, 1-31 deg.; and East London, 0-27 deg.; while the organic impurity of the New River Company has been further diminished by 0-248 deg. We shall certainly not take upon ourselves to say that the increased organic impurity of the water supply is the only cause of the increased rate of mortality within the metropolis; but it would be to disregard the important and significant fact that the augmentation of filth in our drink is coincident with an unusually heavy death-rate. There is another remarkable coincidence to be taken note of—the diminished organic impurity in the New River water coincided with a reduction in the rate of mortality in the City of London; according to Dr. Letheby, during the last quarter of the past year the proportion of deaths declined 16 per cent. below the average.

It would be wrong to infer from the circumstances stated that the water companies are responsible directly for the increased pollution of their supply, or that they have neglected any of the onerous duties imposed upon them by the latest legislative enactments. That they have done their best honestly and thoroughly, by the filtration of their supplies, will be evident from an inspection of the table above, which shows that the total impurity per gallon has been diminished since 1851, with three exceptions, and their slight increase is susceptible of explanation by the increase of earthy particles carried down by the augmented volume of water which at this season percolates the soils and drains into the Thames. The diminution of total impurity is due to the efforts of the companies; the increase of organic impurity is due to causes beyond the control of the companies—to the augmented density of population on the area which drains into the Thames, and to the draining of fresh localities into the river. Since 1851 more than half a million has been added to the metropolitan population, whose discharges conveyed into the river will account for the additions to its organic impurity, without taking into consideration the increase of population in the valley of the Thames above the metropolitan area. The inorganic impurities can be arrested by filtration, which the tables show the companies to have done, but the organic impurities are for the most part, too subtle not to escape the action of filtration. When the intercepting drainage of London is completed, and if sewage be diverted from the Thames, organic impurities will be, doubtless, diminished; but it must always be polluted by the storm-overflows from London sewers, and from the drainage into it of districts above and beyond the metropolitan area. The radical defect in our water supply is that it should be taken from the Thames at all, or, indeed, from any source into which sewage is drained. The water supply to Paris is to be obtained from streams unpolluted by sewage, and care is to be taken not to allow animal excreta to flow into them. There was a golden opportunity ten years ago of doing as much for London, when the Honorable Mr. Napier pointed out the green-sand formation at Bagshot as sources for supplying us with pure soft water, which would have improved our health, and effected an economy in every household. The opportunity was neglected. The intakes of the water companies were removed up the stream, and we are now paying the penalty for our neglect and folly in the additional filth to the water we drink, and the increased offensiveness of the Thames from its diminished volume.

With regard to drainage, Dr. Letheby points to its defects in quarters not suspected, by his startling revelation of the change in the relative sanitary conditions of the dwellings of the wealthy and of the poor. Fever is, perhaps, the truest indication of defective drainage. Year by year, its epidemics were abated and its outbreaks were rendered less frequent by the habits of men, there has been a gradual and steady abatement of continued fever. But during the last quarter, and without warning, the disease made its appearance, and caused a higher rate of mortality than ruled during any other quarter of the five preceding years. Instead of occur-

ing in districts inhabited by the poor, as formerly, fever has "migrated from the haunts of poverty to the confines of luxury." Since 1858 the fever cases attended among the poor by the medical officers of city unions has been reduced from 10 to 3 per cent. of all sickness. Fever is, therefore, in the course of being expelled from the abodes of labor, but as, on the whole, it has increased, it must have fortified itself in the homes of the well-to-do.

Dr. Murchison and Dr. Barker have "almost demonstrated" that the ruling fever is caused by noxious emanations from sewers and drains; consequently, the wealthy districts are worse drained than poor districts. For the explanation of this anomaly we must seek perhaps in the habits of "comfort" of the rich, in the defects of the localities they have chosen to settle on, and in the number of new houses built for the middle and upper classes. As a general rule, in lower class houses, drains have no communication with the interior; the closets are mostly in the yard or without the house. In better class houses they are within, and the better the class the more immediately are they in communication with the dwelling apartments and the bed-chambers, and the more numerous are they—one on every floor. Thus it is impossible to present miasms from penetrating into the interior, and being inhaled by the inmates. We do not speak of other arrangements which are made to insure family comfort, but which are very conducive to sickness. Again, the cisterns in which water is stored for drinking and cooking in better class houses are also employed to flush closets. Is it practicable for some of the miasms to escape into the cisterns, and be taken up by their contents? This is a point on which information would be very acceptable, and which might be easily ascertained by testing samples from cisterns and from mains in the streets. Should the stored waters prove to be polluted, the inhabitants have a complete remedy within easy reach and at trifling cost—the abolition of cisterns and the substitution thereof of constant service. The extra expense for the whole year would not be more than the head of a family will spend in tickets for a night's entertainment at the theatre or at a concert.

Fashion has made its abode in the lowest, worst-drained site in all London. Finsbury, Chelsea, and the neighbourhood lie so low that the sewers are often tide-locked, by which means miasms are driven back into dwellings. Their level is such as to afford no fall for draining into the intercepting sewers, and they will require a separate drainage system, with deodorising processes, to remove offensive matters from their midst. From the evils that spring from site there is no remedy until Mr. Haizegatte's scheme is carried out, which will be tantamount to raising the level, and even then the remedy may prove partial and incomplete.

In ten years 25,000 inhabited houses have been added to those previously erected in the metropolis, and a very large proportion of them are better-class houses. If the reader desires to see how many of them have been constructed in defiance of sanitary rules, let him go on a voyage of discovery in the neighbourhood of Notting-hill and the Regent's-park. He will there perceive new houses without basements, built on the soil, and with damp creeping up the walls from footings to roof, exhibiting itself in mildew and vegetation. The roads are ankle-deep in mud when it rains, unmetalled, and with the vegetable soil left exposed on the surface, interspersed with pools of stagnant water. Of course the drying of the roads necessitates the evolution of noxious gases, which find their way into neighboring houses. Not Agar-town, in the worst phases of its existence, exhibited conditions more unfavorable to health than do some of these new better class of streets. Can it be a matter of surprise, then, that fever should make them its abode?

#### ROYAL SCOTTISH SOCIETY OF ARTS.

At the fourth meeting of the session of this society, Dr. NEWBEGG, President of the Society, in the chair.

Mr. WILLIAM FAIRIE, Fellow, gave a description of a plan for forming barriers of refuge. Mr. Firth stated that the plan which he proposed to submit was one of the class known as floating breakwaters. It was founded on the well-known law, that "action and reaction are equal and opposite." The plan was to lay out a series of breakwaters by means of large pontoons or tubes of iron of great length and of considerable depth. It would be necessary to prevent the tubes from being, and also from being drifted by high winds. The objection to the plan was that the tubes would be liable to be raised by means of the tides, and the same objection would apply to the Britannia-bridge and similar structures exposed to the influence of the weather. The quantity of water raised above the mean level of sea water-line was almost equal to the quantity left below that line, and it must equally follow that the insular motion of the water was confined between two lines, one as much below as the other was above still water-line. The final consideration was that of sinking anchorages, which had been considered the chief objection to floating breakwaters. If it were considered that the tubes had no yielding motion, and consequently would not jerk the cables and anchor, there was some difficulty in arriving at any need for prodigious power in this element of the plan.

1. Mr. CAMPBELL HILL, Scotch, George Heriot's Hospital, then read a paper on "An Improved Time Drainage System." Both papers were referred to a committee for consideration. A reply to the address of condolence presented to Her Majesty was announced as having been received from the Secretary of State.

METROPOLITAN BOARD OF WORKS.—At the last meeting of this body several contributions were ordered to be made in aid of City improvements in Walling-street, Newgate-street, and Fleet-street.

#### ON THE ESSENTIALS OF A HEALTHY DWELLING AND THE EXTENSION OF ITS BENEFITS TO THE LABORING POPULATION.

In accordance to the request of the Institute that I would, after an interval of twelve years, again give to its members some of the results of that experience which has been gained in my gratuitous efforts to promote the healthfulness of our dwellings, and more especially those of the laboring population, I feel that, however unattractive the subject may be to the aristocrat, it is, at the same time, of the greatest interest to the laboring classes, and that many of the difficulties with which it is beset can not only be appreciated, but their solution be probably in some measure aided by those whom I have now the pleasure of addressing.

In my paper read the 21st January, 1860, reference was made to the great interest taken in this subject by our illustrious patron, the deeply lamented Prince Consort, and his Royal Highness's own words were quoted, to show that "these feelings are entirely and warmly shared by Her Majesty the Queen," our most gracious patroness. Proofs of an undiminished continuance of that interest, as well as some of its practical results, will be stated in the second part of my present paper.

It would be doing violence to your feelings as well as to my own were this allusion to be unaccompanied by an expression of the most profound sympathy with our beloved Sovereign, for whom we earnestly pray that in this time of overwhelming grief abundant consolation may be granted from above. Shall we not also indulge the hope that ere long a knowledge of the great and wide-spread benefits resulting from the noble principles, highly practical wisdom, and bright example, which, alas! we must now speak of as a legacy bequeathed by the Royal Highness, will have their soothing influence on our bereaved Queen, as well as stimulate many to follow so bright an example?

In the grief so universally manifested at the death of this great and good Prince we all participate; but there is one heart more honored by occasional intercourse with that illustrious person, and knew his kindly, courteous manner, must feel the loss more deeply. Some present can, no doubt, bear witness with me to the proof of real interest in the objects His Royal Highness deemed worthy of his attention, which was manifested by a remarkable appreciation of minute details—a characteristic feature of a mind as retentive as it was highly cultivated.

I might select a suggestive motto, suited to the subject before us, from one of the admirable addresses by his late Royal Highness, which it was my privilege to hear at the Aberdeen meeting of the British Association, and at the International Statistical Congress, held more recently in London; but I prefer adopting for that purpose a sentence uttered on another occasion by the ever to be lamented Prince, on account of the deep feeling of responsibility which it manifests, and the important principles which are so peculiarly applicable to my subject. It is the following:—"The happiness of the human race can only be realized in proportion to the help which we are prepared to render to each other."

In proceeding to point out the circumstances conducive to the healthfulness of a dwelling, some will be named which cannot be strictly termed "essentials," inasmuch as they may be more or less compensated for. Such is the case where localities, though not elevated, have a good soil and are well drained. It may, perhaps, appear scarcely necessary to add that the healthy state of a dwelling cannot be insured by any one, or even by the union of all the sanitary measures essential thereto, in the absence of others which are of equal importance.

The condition of "healthy," in regard to dwellings, arises out of a combination of circumstances, which comprise—

1. Those appertaining to the locality, including its soil, a free circulation of pure air, an efficient drainage, an ample supply of pure water, and a good aspect.
2. Those which are structural.
3. Those which depend mainly, though not wholly, on the occupants themselves—external and internal cleanliness, and a proper use of structural arrangements.

1. In regard to locality. High and dry situations, having a free circulation of air, whether occupied by groups of buildings, as in towns, or by isolated dwellings, as in the country, are proverbially healthy; whilst those which are low and damp, or surrounded by confined air, are the opposite. Experience, afforded by the state of troops when encamped, or when in permanent barracks or in hospitals, is conclusive on this point. It is a known fact that the mortality of troops in Jamaica has been diminished from 180 to 30 per cent. since the removal from the plains to the hills, and that the same result has been attained, and never prevail in localities where the surface of the ground is naturally wet and insufficiently drained, or where there exists an accumulation of decaying matter, of which one sure indication is the presence of an abundance of flies. Dampness of situation is also productive of mental depression, and of nervous debility, which excite a craving for intoxicating drink. The embowment in trees, or any other obstruction to a free circulation of air immediately round a dwelling, is prejudicial to health, and should, therefore, be avoided.

A soil of gravel is unquestionably the most healthy, and, next to it, one of sand. Clay soil, which, from its non-porous nature, retards the infiltration, is a frequent cause of the dampness so prevalent in the lower stories of houses in many localities—an evil felt as much in some which are elevated as in those at a lower level, and a fruitful source of sickness amongst servants, as well as the occupants. In such cases, the drainage of the lower story, and the adoption of preventive measures which should be adapted when the soil is of clay will be noticed under the head of construction. A soil of chalk is usually attended with the disadvantage of its being necessary to sink a considerable depth for water; whilst its chemical properties, implied in the process of titration, are objectionable, as they constitute a ready medium for storing rain-water, in such cases, often the most suitable expedient.

\* Read at the Royal Institute of British Architects by HENRY ROBERTS, F.R.A.S. This paper was published, with numerous illustrative plates, by the Society for Improving the Condition of the Laboring Classes in 1860, under the title of "On the Healthfulness of the Dwelling," and has since been translated into French, and has been translated, made by order of the Emperor when President of the Republic, been widely circulated in France. Considerable portions of it have also been published in Germany and in the States of North America.

† A process for softening water derived from chalk has been put in operation at Woking, and is said to be successful. In an article on municipal hygiene in the *Builder*, of 12th inst., it is stated that the process has been found to be successful in preventing disease occurring from the oxidation of iron pipes used for soft water supplies, the only effectual remedy for which is an internal coating, or varnish.

Loose soil close to a house is a frequent cause of damp, which might be remedied by a flagging of stone or asphalt, and in many situations a dry drain ought to be formed round the building, and therefore in the selection of a site, and to the surface of the ground about a dwelling, as well as in the selection of its site.

**Drainage of the Soil and Surface.**—Wherever dwellings are built on natural dry ground, it is essential to their being healthy that a safe provision be made for draining the soil, as well as for ordinary surface drainage and for the carrying off of surplus fluid from the house itself. The necessity for this description of drainage is generally more manifest in the country than in towns, their gradual formation and progressive increase rendering them more liable to be affected either side of the Thames, where the drainage has been most inefficient, were much more severely visited by the cholera than the higher parts of the metropolis.

**House Drainage.**—The providing-efficient means for house drainage, as well as of a good surface drainage, is a duty which, in the case of towns, obviously devolves on the public authorities. The consequences of a past neglect of this duty have been remarkably manifested at Windsor, where the prevalence of fever and cholera complaints having led to an investigation, the drainage of the town was found to be very defective, and without any proper ventilation to carry off the gases which form in the sewers; whilst, on the contrary, at the castle, a separate and perfect system of drainage having been provided, no disease existed, but the cause of the epidemic in the town was not known to the public. House drainage, should, as far as possible, be kept underground, the building, although the valuable modern improvement of glazed earthenware tubes with perfect sockets has greatly diminished the risk of an evil formerly so common. Earthenware pipes, if not laid in a straight line, or if they are not properly trapped, in order that they may not become a medium for the escape of foul air into the dwelling.

Cesspools under basement floors, so common formerly, have been the cause of sickness and death innumerable. During the cholera in 1849, to my knowledge, several cases wholly traceable to this cause occurred one house only. Whenever these latent sources of mischief are discovered, they should be removed as quickly as possible. In many houses of the first magnitude, both in the metropolis and in the country, which are not of recent construction, this evil exists, as well as that of defective drains, caused the ground under the house to become sodden with fætid matter. The gases which originate in these places, and diffuse themselves over the dwelling, constitute one of those conditions of local impurity which exercise a powerful influence when the state of the atmosphere is favourable to an outbreak or spread of cholera, and therefore a sanitary measure. The abolition of cesspools within all dwellings is therefore a sanitary measure of the first importance.

**Pure Water.**—Even an ample supply of pure water, one of the most important accessories to a healthy dwelling, the public authorities should take the case of towns, be held responsible. The contamination of our rivers by their being unscrupulously, and at the same time most wantonly, made the receptacles of refuse, has rendered them very generally incapable of supplying the neighbouring population with pure water. In London, the metropolis, in respect to its supply of water, has taken place in our own metropolis, it still remains far behind the metropolis of the Roman Empire, and even many of its provinces. Those who have traversed the Campagna di Roma can never forget the gigantic aqueducts which bring down to the city, and from which Rome was supplied with water. The practice which has to such an extent prevailed in our towns of obtaining water from wells, sunk not unfrequently near to a churchyard, has been very prejudicial to health, though its sparkling appearance and freshness to the taste might lead to the contrary supposition. Its impurity is generally caused by an infiltration from some neighbouring drain, cesspool, or other deposit of putrefying matter. Many such instances in the metropolis might be referred to.

For dwellings in the country, good drainage and ready access to pure water are not less essential than they are in towns, and they ought, therefore, to be made the subject of deliberate investigation before the locality of a dwelling is decided on.

The aspect of dwellings is often greatly dependent on local circumstances, and has an influence on their salubrity which is too much overlooked. In preference to all others, a southern aspect should be chosen, and where that is unobtainable, one inclining either to the east or to the west, so that the rays of the sun may even come part of the year. In the metropolis, the houses with a southern aspect in the summer are exceptional, though in such cases I should give the preference to an eastern or a north-eastern over a due northern aspect. In towns the difficulty of obtaining a sunny frontage may frequently be great, if not insurmountable, and the importance of having the sun's rays within the dwelling for some part of the day, especially in rooms occupied by children or by invalids, should never be forgotten. I could point to a large convalescent asylum in the country which is so arranged that the spacious gallery used by the patients for exercise during the greater part of the day, is without the shading and warming rays of the sun. Such defects tend to define the main object of the institution, and to discredit all concerned in the building.

The structural features essential to a healthy dwelling have now to be considered in point of detail, and the first of these is the position of the house, which has characterized my remarks on those appertaining to locality; and not doubting that your own recollections will supply the corroborative passages which might be adduced from Vitruvius, from Alberti, and other eminent authorities, I

abstain from quoting them, in order to avoid unnecessarily encroaching on your time and patience.

To insure the healthy condition of a dwelling its structure must be—1. dry; 2. warm; 3. The number and area of its apartments must be in proportion to the number of their occupants, and due provision must be made for all the requisites appertaining to daily life. 4. It must be well lighted. 5. It must be ventilated, and be free from damp. 6. It must be free from vermin. 7. It must be in order to a healthy and comfortable life. In order to a house being dry, it must stand on a dry foundation; and where this is not otherwise obtainable, artificial means should be adopted, either by forming a stratum of concrete, varying in depth according to circumstances, or by raising the house on pillars 12 inches or more in diameter, or by a bed of asphalt laid through the whole thickness of the wall under the floor level.

The lowest or basement floor should be raised not less than about 8 inches above the external surface of the floor, or more, the area being excavated, then ought to be excavated, so as to give a clear depth of not less than 12 inches, which should be ventilated by means of air bricks, built in the external walls.

Floors of stone or of slate should either be hollow, resting on brick courses, or be laid on a dry bed, prepared for the purpose, which is also essential in the case of brick or the floors. In some parts of the country lime and sand floors are pretty generally used for cottages, and when properly made with a dry substructure are said to last upwards of 40 years. I have used Portland cement for the floors of living rooms in fireproof dwellings, but in places where there is much war stone is preferable. Bed-rooms ought, in our climate, when not matted or carpeted, to have boarded floors.

External walls, and the roof, of sufficient thickness to secure dryness and warmth. On the facilities for obtaining a good and non-porous material may depend whether brick, stone, or flint be used; whichever it be, good mortar is essential to dryness. In some places concrete, pebbles or cob, with an external facing of plaster, or rough cast, may be employed with advantage, particularly in the case of the roof. Houses of stone are generally found to be more durable than those of brick, and they are also well adapted for the lining of walls. A glazing on the external surface of brickwork is an effective preventive of damp, and it is to be regretted that suitably glazed bricks are not easily obtainable at a moderate price. Their smooth surface is a great recommendation for interior use, and on account of its non-retaining properties.

For the covering of roofs slate has with us so many recommendations that its general adoption may be readily accounted for; the evils attendant on its use arising from changes in the temperature should be particularly urged against its use in the case of the roof. It is, however, to be observed, that it is found to be warmer in the winter and cooler in the summer than slate, and requiring less lead are in that respect more economical. Projecting eaves should invariably have gutters, to prevent the drip which is often the cause of damp in the walls, and foundations; the same evil too frequently arises from a stoppage of the rain-water pipes consequent on their being either too small, or their heads being unprotected from the intrusion of birds' nests, leaves, &c.

For the roofs of town buildings more particularly, a fire-proof construction,\* such as that which I have proposed in my paper of the 15th of January 1850, has many obvious advantages to recommend its general adoption. But the practice, so extensively prevalent, of forming rooms for servants in the roof has an opposite tendency. In reference to fire-proof construction I would take this opportunity of recommending to the attention of the public, and of the authorities, a notice in the corner, 1860, "On the Use of Coke," which, from its lightness, appears to be equally suitable for the purpose of vaulting, as the volcanic scoria or pumice known to have been thus applied in many important buildings in Italy and Sicily.

When the immense destruction of property caused by fire, and too often accompanied by the loss of life, is considered, the question of an efficient system of fire-proof construction generally applicable, appears to me to merit the very serious consideration of the Institute of British Architects, and I, therefore, venture to make the remark, though the suggestion is not intimately connected with my subject.

Wood of an inferior quality, or unseasoned, when used in any part of a dwelling-house is a false economy, whilst the cracks and shrinkages caused thereby are often prejudicial to health.

Lead, a material which enters into the construction of most dwellings, should be used with great caution for pipes which convey drinking water, and ought to be dispensed with altogether for cisterns, excepting only for the purpose of conveying water to the cistern, or for the purpose of conveying water to the cistern, which frequently takes place when the water in them is soft. Iron, properly varnished or enameled, may be substituted for both purposes; and for cisterns, slate is very suitable. The offensive and unwholesome smell of lead, which proceeds from the fumes of lead, or effluvia stone, renders the substitution of either of slate, or glazed stone-ware, or of enameled iron, very desirable.

2. Warmth.—This in a dwelling depends not only on its aspect, its dryness, the materials used, their proper application and substance, as have already been pointed out, but also on the structural plan, particularly on the relative position of the doors and fireplaces, as well as of the windows and spaces for beds, which should be so contrived that the occupants will not be exposed to draughts. With all our regard for comfort it is surprising that we do not more frequently consider the effects of one variable climate, by the use of double sashes, which are so common in many parts of the Continent. This would be a means of retaining more of the small portion of genial warmth which passes into the room from our wastefully constructed open fireplaces, a subject on which, in connection with artificial warming and ventilation of dwellings something more will be said hereafter.

\* I have the authority of Dr. Farr for stating that, if the mean of cholera epidemic of 1849 and 1850 in London be taken, nearly 1 in 1,000 of those living under 10 feet of elevation died, to 1 per 1,000 of those at the highest elevation; and that, if London be divided into several different degrees of elevation, the mortality from an epidemic of cholera is, in round numbers, inversely as the elevation.

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3. The number and dimensions of the apartments essential to health in a dwelling must be proportionate to the number of its occupants, and suitable provision must be made for all that appertains to a well ordered domestic life, not only that of the master and mistress as well as of the children, but also that of the servants, whose health and morals it is the duty of their employers to care for.

The amount of space required for health being greatly dependent on efficient ventilation, it will be considered under that head. In most dwellings the scale of accommodation chiefly depends on the means and circumstances of the occupants, in which the variety is so great that I shall not attempt giving anything but a brief outline of what may be termed the minimum provision which ought to be made for a family consisting of parents and children of both sexes, belonging to the laboring class, and residing in the most unwholesome section of the community. A laborer's dwelling in the country should have a small entrance lobby, a living room not less than 150 feet in area, a scullery of from 60 feet to 80 feet in area, in which there should be a stove or fireplace for use in winter, as well as a copper and sink; there should also be a small pantry. Above should be a parents' bed-room not less than 100 feet area, and two sleeping-rooms for the children averaging from 70 to 80 feet superficial each, with a distinct and independent access. Two of the sleeping-rooms at least should have fireplaces. There ought also to be a properly lighted, ventilated, and drained closet, as well as suitable inclosed receptacles for fuel and dust. The height of the rooms, in order to their being healthy, should be scarcely less than 8 feet, and even 9 feet would be desirable but for the extra expense. With a view to ventilation, the windows should reach nearly to the ceiling, and the lower part be invariably made of iron-work, which may be painted as well as malicious, some of the upper compartments may be hung on centres for this purpose.

It may be deemed almost Utopian to indulge the hope of seeing such accommodation as this placed within reach of those of the laboring population who are doomed to live in towns; but those who for several years have been striving to place the benefits of a healthy dwelling within their reach, whilst knowing by experience something of the numerous difficulties to be overcome, and being fully aware that, in many cases, it may be impossible to accomplish all that is desirable, ought not on that account to be daunted in the pursuit of an object of such great and wide-spread importance.

In returning from this digression to the structural features of a healthy dwelling, I would point out the great importance of direct external ventilation and light to all water-closets, including those for servants' use. It is obvious that constructive details here must be such as to prevent the escape of water-closets should be protected from the effects of frost. I notice also that it is of much importance the chimneys should draw so that the smoke will properly ascend; when it does not, the air is greatly contaminated by its escape into the dwelling. The smoking of chimneys is often caused by the want of sufficient air in the apartment,\* or by bad management in the first lighting or in the putting on of fuel, frequently arises from the proximity of more lofty buildings, or of trees, and too often from a defect in the construction, such as allowing too large a space to the upward current, and which may sometimes be cured by a contraction of the throat. The ordinary height of flues is 9 inches square, or which is decidedly preferable, 10 to 11 inches diameter, are quite sufficient. Kitchen chimneys are exceptional.

4. Light well diffused over all parts of a dwelling is essential to its being healthy. A dark house is not only gloomy and dispiriting, but is always unhealthy. We know on high medical authority that "the most violent diseases in light rooms as compared with dark ones is vastly less." Light ought to be diffused over the whole dwelling, so that no dark corners be left to invite a deposit of that which is untidy or offensive. Happily the motive which in times past led so much to a exclusion of light of heaven no longer exists, and though ages may pass ere the evils resulting from a vicious legislation are entirely swept away, yet the removal of the tax on windows and of that on glass must, amidst much to discourage those who have long and zealously labored in the cause of sanitary amelioration, be regarded as most valuable concessions in its favor.

5. Ventilation and Artificial Warming.—These are questions of vital importance in regard to dwellings, though, judging from the neglectful indifference of the multitude, their value is far from being fully appreciated. The soundness, even by the eye in the scientific classes, of the common view is otherwise, the eloquence perceptible on entering many of their dwellings, the oppressive heat of the rooms, the sickening fustiness in the apartments occupied by the servants, and too often in those of the children, would certainly not exist. When the members of houses passed within doors by every human state of civilization is considered, it will be manifest that the breathing of vitiated air for so large a portion of the twenty-four hours must be as injurious as living on unwholesome food.

T-SQUARES.—At a recent meeting of the Franklin Institute, U.S.A., Mr. Nyström showed several specimens of improved T-squares. He said, simply on this instrument seems to be, it is difficult to procure one that will satisfactorily answer the purpose for which it is intended. The rule of the square is generally made of hard wood, which is apt to warp, and it is heavy and clumsy to handle on the drawing board. The most suitable wood for a T-square is spruce-fir. This wood is not affected by a change of weather, and therefore will not warp; it is among the lightest of woods, its specific gravity, when well dried, ranging between 0.4 and 0.5, but it is too soft to be used against the drawing pen, in consequence of which it is necessary to line the edges of the rule with a harder wood. It is of great importance with what kind of hard wood the spruce-fir rule is lined. Most of the hardest woods are not suitable for the purpose, as they warp and twist the rule in the manner intended. The rule of the square is to be the best for the purpose; it is a fine grained, hard wood, and its specific gravity, when well dried, is only 0.6; its behaviour in changes of weather coincides very much with that of spruce-fir, and it is therefore best adapted for this purpose. —*Mechanics' Magazine*.

\* The late Mr. Thomas Cubitt told me that he had frequently cured smoky chimneys, in houses of his own building, well known to be amongst the best in London, by an imperceptible admission of a little cold air from the room doors, the woodwork so closely that sufficient air could not, when they were closed, gain admission to the room.

† To be continued.

## THE HOUSE OF NASSAU, AND FOUNTAIN, NUREMBERG.

The irregular streets and squares of Nuremberg, have a wonderfully quaint, picturesque, and ornate character, and the traveller wandering through them, may easily imagine himself transported back a few hundred years into the past, such an air of antiquity pervades the city.

Many of the dwelling-houses are still inhabited by the families whose ancestors originally built them. As a rule, they are three or four stories high, with a good gallery, the roofs garreted with an abundance of dormer windows. Though narrow, the houses often extend back from one street to another, enclosing two or three courts. The ground-stories were low and vaulted, and usually occupied as warehouses, the upper and domestic portions were elaborately carved and stuccoed.

Das Nassauer Haus—the House of Nassau (of which we give an engraving on another page), stands most opposite the church of St. Lawrence; it is considered one of the best examples of the domestic architecture of the city. The style is true German Gothic. It was built at the beginning of the fourteenth century in the reign of the Emperor Charles IV. The angle turrets are very marked features, and together with the high-pitched roof, and battlemented and richly panelled top, form an artistic termination to the somewhat tower-like building. The centre oriel window is very beautiful in design and execution. The little drinking fountain below is of modern date; it is decorated with a statuette of the Emperor Adolphus of Nassau, at whose desire, the Church of St. Lawrence was built. The fountain in front of the house is rich in sculpture and metal-work.

Nuremberg has been regarded as the cradle of the arts, but many other things were nurtured in the Imperial city, which have exercised a vast influence on mankind. Cannon are said to have been first cast in Nuremberg in 1356. Playing cards (perhaps invented there), were certainly manufactured in the city as early as 1380. The first watches, called "Nuremberg Eggs" from the shape, were made there by Peter Heile, in 1517. The first gunlock in 1517. In 1590 a paper was issued by the city, the first in Germany. In 1598 Erasmus Ebner found out the alloy of metals now called brass; the clarinet was invented by Denner in 1690. We might easily enlarge the list: a wonderful city was and still is Nuremberg.

## ARCHÆOLOGICAL INSTITUTE.

At the meeting held January 10. W. TITE, Esq., M.P., V.P., in the chair, Mr. PETRUS A. communicated drawings and a notice of remains of a church of circular form, called the Irish House, existing in the ruins of the palace of the Earl of Arundel, who had built there in the twelfth century. As an example of this peculiar type, of which so many are to be found in the northern parts of Europe, this little church at Allentree, near Nuremberg. It is remarkable that no church of this form exists in Ireland. Professor DILLON read a paper on the general principles of the architectural system made the explanation in our own country, all of which belong to the twelfth century; and Mr. TITE invited attention to the Round Church at Northampton, which he had lately visited, and which he attributed more to neglect and decay, and is now in process of restoration, under the care of Mr. Scott.

A memoir was read, addressed by one of the Foreign Correspondents of the Institute, Captain de la Roche, of the Association of the Institute, on the subject of the illustrative of various prehistoric antiquities—entrenchments, tumuli, &c.—in Lithuania. Of these a series of careful plans were sent for comparison with those of similar remains in other parts of Europe. The speaker observed that in Lithuania, in regard to the archæology of his country, the Count explained the divisions under which the ancient vestiges may be classified; namely, the singular earthworks at the confluence of rivers, entrenchments on the summits of mountains, secured, as supposed, to the worship of gods, and where small circular cavities occur constantly, in which ashes and charred wood are found, the traces, it is believed, of sacrifices; the third class includes mounds, and, lastly, were described the tumuli, called barrows; some of them being posts of observation, like watch-towers; others following the lines of ancient roads, and the greater number are sepulchral, and in those are found weapons and relics of stone, bronze, and other metals, analogous to those by which the vestiges of the earlier periods are characterized in England and other parts of Europe. Bells of colored glass and of amber are likewise found in abundance.

A discourse was then delivered by Mr. B. LLOYD, of Bangor, controverting the opinion of the Royal Society, and of Mr. Lewis, that the spot where Cassel stands in Britain. Mr. Lloyd was disposed to regard Rhodan, to the west of Deal, as the precise spot; and he contended that at the time when Cassel approached, the British coast was a narrow isthmus, the Devil's Den, as it is mentioned by Leland and other writers on Antiquities; it probably marked the site of a Roman pharos, on the west side of the harbor at Deal. The walls of the pharos were built of stone, and the tower was a circular structure, which had been covered up with chalk and rubbish, and concealed from view in 1846, to be again exposed for a few days during the recent operations, and again wholly lost and forgotten.

A notice was then read of the Roman pharos on the Western Heights, at Dover, and of which as exposed to view last summer. In the course of forming barracks, a photograph was obtained. The pharos, as the name implies, was a lighthouse, and is mentioned by Leland and other writers on Antiquities; it probably marked the site of a Roman pharos, on the west side of the harbor at Deal. The walls of the pharos were built of stone, and the tower was a circular structure, which had been covered up with chalk and rubbish, and concealed from view in 1846, to be again exposed for a few days during the recent operations, and again wholly lost and forgotten.

Leeds.—New Chapel.—The Baptist denomination of Leeds have just opened a new chapel. The building, erected under the superintendence of Mr. T. Ambler, architect, of Leeds, is in the Italian style. The walls are being decorated with arabesque designs, and the interior is finished with a series of windows which commence paved brick walls. Each side is divided into four bays, having windows with circular heads, glazed with ground glass. The chapel is arranged with baptistry and communion pew, and will seat 375 persons. The seats are of iron, with a platform at the rear of the choir, and a small organ on the right side. Part of the roof is seen, the iron moulded structure, which is carried partly up the slope of the roof. The woodwork is stained and varnished. There are two vestries in the rear of the chapel, and room for heating apparatus, and also a small vestry for conveniences. The chapel is lighted by two sunlights near the ceiling. The total cost of the building has been over £500.









I think that it may be said with strict truth that exactly in proportion as this sculpturesque spirit pervaded architecture, so that art became deteriorated. It has been truly said by a high authority from this place, that paintings and sculptures are the result of a degenerate administration of the plastic arts, and that sculpture is most clearly defined, and when each art limits itself to the doing that which it is by its nature best qualified to do. Sculpture can very imperfectly represent distance, and should, therefore, avoid as much as possible attempting to do so. Paintings on the other hand, while they are thereby enabled to produce such effects, by its power to represent space and distance; and therefore, the painter who places all his figures on the same plane, does not avail himself fully of the capabilities of his art. So, also, the painter abandons one of his highest privileges when he neglects to use color, whilst the sculptor who uses color (unless he does so with infinite caution and exercises great moderation and abstinence), runs a serious risk of turning his statues into dolls.

Our own art is amenable to the same law. It is always most triumphant when it attempts to do that which is its special province to do. Therefore, then, to apply our remarks to the subject in hand, I should say with great confidence that the architect who so designs his building as to render it doubtful whether sculpture may not legitimately lay claim to the work as its own, is a traitor to his art, and to its highest rights.

Many instances of such self-debasement present themselves among the works of the degenerate days of which I treat. It seems an ignoble task to hunt up for criticism and condemnation such examples of the abuse of genius; but such is the task I have imposed on myself, Italy well earned the honor of having in the garden in the soil of which were nurtured all the most beautiful productions of modern art; but it was unfortunately in that same too fertile soil, that with greatest exuberance sprang up those wild extravagances, which ultimately brought so great discredit on the arts, and on none more so, perhaps as on our architecture.

I believe that it is to that fatal facility, which characterized the practice of all the three arts at this period, that we must mainly attribute their common decline. Wholly wanting in the thoughtfulness and deep feeling of Raffaele, and of some who preceded, as well as of some who immediately followed him, the painters sought for the most part, gorgeous and showy effects, at the expense of all the higher qualities of their art; so, as I have already remarked, the sculptors of this declining age designed impetuously and executed dexterously, but the sentiment of their art had evaporated, and its greatness had gone; — and so, as to return to our own art, the architects of the latter, and earlier period, were enthusiastic without wild extravagance, refined without pedantry, and always knowing well when to refrain from and when to indulge in the graces of decoration; none knew more thoroughly than the latter, more advanced, quotable, and more apt to give to the eye the appearance of the most perfect ornamentation; whilst none appear to have known better than they the value of breadth, simplicity and even of perfect plainness, when their good taste and judgment prompted an abstinence from ornamentation. But I have on former occasions dwelt extensively on the architects of the latter, and earlier period, and have already endeavored to urge on you the careful study of their works. I name them now, that you may feel more sensibly the contrast presented by the same arts of the degenerate age which followed. It is my aim to deter you from the evil examples as by the living memory of the better, and to prevent you from repeating their errors for your reproach and rejection. Through the ignorance of some, the contumacy of others, and the loose habit of speaking common enough of most of us, the term "Italian architecture" is applied to buildings of the most diverse and opposite character. It is applied to the most graceful and of speech by which style of the almost contrary, from the simple, austere, and honest architecture of the early Renaissance buildings down to the florid extravagances of Adam Kraft, have been indiscriminately placed under the one name, unmeaning, and inappropriate term "Gothic." It is through the same thoughtless and perhaps ignorant way in which the general term "Italian" architecture has been customarily applied, that gross injustice has been done to works of the highest quality.

The vague and superficial knowledge, both of some of those who have written and of those who have spoken on our art, has too often led them to place under the same category the beautiful works of Bramante, Raffaele, and Giulio Romano with the truly barbarous architecture of Bramante, Fischera, and too many of the Italian artists, as I have already said. The latter, the first corruptors of the Italian style, whose corruptors Bramante stands out in strong relief as a prominent delinquent; for, as he was one of the most reckless practitioners, and one of the most sinful contaminators of style, so was he one of the most active and successful in spreading abroad the same fatal facility on which I have long and anxiously been engaged in your course of practice in spreading over Italy a numerous and conspicuous progeny of ugliness. Prosperous, however, he was not to the end. By a kind of poetical justice his enterprises were not attended upon with the success which he had hoped for, the victim of jealousy and envy. Bramante Fischera was another instance whom I have adduced as one of the false lights of this vicious period. Vienna, to this day, is, in its public buildings especially, distinguished by the bad taste of Fischera, and I know no city so sadly disgraced by the school to which he belonged.

Milizia is a cantankerous critic, it is true, but he is perhaps justified when he condemns Fischera's triumphal arch at Vienna as "an capo d'opera di stravaganza." The same disciple of the school of ugliness, he says, could not have invented a more capricious and irrational design.

I revert, now, to the question, what was the cause of this great and general degeneration of art in Italy? It may be that the political and social condition of that country had for some time been degenerating; whilst other, more recent causes were rising in the air, and were about to sweep the whole scale of Europe. Yet, it cannot be said that political preponderance will always be found on the same side of the balance as aesthetic excellence.

We might readily point, in the history of Europe, to notable instances of the same error.

For example, I am aware of no wonderful development of artistic taste having accompanied the brilliant epoch of Frederick the Great, or the extraordinary political ascendancy of Charles the Fifth. Going back to an earlier period, we shall find that in medieval times, when the social and political condition of Europe was very dark, and when, in the language of an old contemporary chronicler, "nobles and bishops built castles, walled cities, and walled men, and walled men, and oppressed the people;" at that very period, too, as it certainly was, with

most of the views which disfigure Christianity, a school of art existed which has been advantageously compared by many with that of the Greeks.

It is clear that there are many influences which will, at least sometimes, operate favorably for the development of art, besides the accumulation of mere material wealth and political power.

Neither will peace, alone, or necessity, bring aesthetic excellence among other blessings. True, the latter are very apt to say, and very willing to believe, when we would point the horrors of war.

The Greek states, for example, brought the fine arts to a climax of excellence never since fully attained, although they were for ever engaged either in warring on each other, or in preparing and defending themselves against extermination from barbarian hordes.

So the Italian states, among whom art received its second birth, were constantly plunged in internecine wars. How often were the great masters of our art called away to superintend the erection of gloomy fortifications, and ponderous, unmeaning, loathsome walls, for the protection of their cities, which were engaged in beautifying? How often were great and glorious works of art arrested in mid progress by the incursions of neighbouring rivals, or by the threatened devastations of foreign hosts, or by the exhaustion of the public purse consequent on these daily straits.

These instances, which might be greatly multiplied, are sufficient to show that a stormy political atmosphere is by no means of necessity inconsistent with the existence of a highly civilized state of artistic art.

It would not, however, for a moment be supposed to place myself to the paradox that war is favorable to the cultivation of art. Very far, indeed, from that is the fact. All that I would wish you to infer from the remarks which I have just been making is, that the arts have been found to prosper notwithstanding the existence of the one condition which I believe to be clearly and positively essential to the permanent well-being of the arts, and that is, public prosperity. I suppose it to be impossible to cite an instance of the general decay of the material interests of a country not being accompanied by a corresponding degeneration of the fine arts in that country, whilst the reverse of this, the social prosperity of a people will generally be found to be accompanied by an elevation of their standard of taste, as well as by a widely spread appreciation of the fine arts.

The proud works of medieval France date about the period when St. Louis, by his wise government, raised the character and consolidated the strength of his country. In England, the rule of Edward III. marks the periods of the highest point of excellence to which Medieval art reached in our country, and precisely the same bold and heroic period was the most brilliant in the political annals of our middle ages.

I need not do more than point to the age of the Medici, in Florence, as the period most embellished by the fine arts, and as the period when the Italian Renaissance found its birth, and as the period when the fine arts of all civilized nations; and we have already seen, from the retrospect I have been taking of the architecture of the Italian Renaissance, that the debasement of the three sister arts was simultaneous with the decay of Italian political greatness. It is not, therefore, difficult to explain these conditions, which I have already said, in a far clearer view of the philosophy of history than that to which I can pretend, before I can presume to lay open the causes of these phenomena, the existence of which is all I can venture to assert.

But, truly, into these causes would hardly profit as here, for it belongs rather to the domain of the political economist, than to that of the artist. No doubt every ingenious mind must feel an interest in these general views, but they can scarcely be expected to bear so much fruit, nor to afford us greater rules of conduct in our several professions, as we are sensible that should ever be perpetuated in the artist's mind, be he student or professor. To trace the progress—not the occult causes—of decay in our art, has been my chief object in the few desultory remarks which I have this evening addressed to you. It is but a sorry theme, and I may be blamed, perhaps, by some for having lingered so long among these ruins of a fine art, and for having mused so long upon the banks of that stream of polluted art which deposited its slime over so wide a portion of Europe, and during so long a period; whilst I might, with so much more pleasurable feeling, have been leading you on to admire beauty amidst the charms of a happier age. But it is my conviction that much benefit is to be derived from the bold and unhesitating denunciation of whatever we must recognise as faulty. There are serious reasons for this, whether they be fashionable or not, of a matter, surely having by the child and the mad of a pretence-lard. The diagnosis of disease is, in truth, best studied, not in the healthy, but in the disordered subject.

It may be said here, however, some of these cases of such disordered subjects this evening. It was, as you will know, the Spartan philosophy to deter the youthful mind from vice by exhibiting openly to the public gaze the unwholesome and repulsive results of vice.

At that I ask of you that you will note, and heedfully observe, these errors of our art, even whilst you pass them contemptuously by, and that you will study them well, for the mere purpose of propounding them as objects which neither love of novelty, nor the attractions of singular ingenuity, or of great technical skill, should ever tempt you to imitate or to repeat.

HOPE TELEGRAPHY.—At the soirée given by the Professors of University College Messrs. Silver and Co. exhibited working models of a telegraph invented by Professor Wheatstone, F.R.S. The apparatus is compact and portable, and although not occupying more space than a 9-inch cube, contains all that is necessary for transmitting and receiving messages, and for producing the electricity effective over 150 miles of line. The signals are made by the pointing of an index to the letters of the alphabet, numbers, &c., painted on a dial in Roman characters, and are, consequently, intelligible to all. In the transmission of the signals it is necessary to have the key opposite the letter or figure to be transmitted, and produce the current.

EDINBURGH MASTER PAINTERS' ASSOCIATION.—This Association has, like our London Painters' Company, established the practice of giving annual prizes for the best specimens of painting in imitation of the works of the masters who were exhibited last week at the rooms of Messrs. Dowdell and Lyon, 18, George-street. Several of these, considering that they were executed by young apprentices, were highly creditable. The committee met in the evening, when prizes were awarded to the following—Imitation of the works of the masters, 1st prize, James and John Quigley. Lettering, paint and shadow—1st prize, James Duffy; 2nd prize, Thomas Quigley, John McCabe, and George Darling.

## ON THE CONSERVATION OF ANCIENT ARCHITECTURAL MONUMENTS AND REMAINS.\*

NOTHING can be more delightful and instructive than this class of investigation. One sometimes finds the most interesting and most interesting designs of the greatest beauty and originality, of which not a trace was before visible. Were it not for this, the work of restoration would be almost unmitigatedly painful, from having constantly to meddle with and to replace the beautiful and the beautiful; to discover, however, and the beauties they unfold, afford a delightful and consoling occupation.

How doubly distressing, then, is it to see evidences of this kind discovered, but ignored and destroyed without one hint being taken from them, as is too often the case.

After animadverting, however, upon our own misdeeds, I think I may be excused in speaking somewhat plainly as to the fearful loss of authentic work of the most precious, indeed, of the most inestimable value, which is going throughout the length and breadth of that country which boasts itself to have been the birthplace of Polished architecture, and where the most competent can be established, it follows as a necessary consequence that every original fragment, and every authentic detail, or—more correctly speaking—the originality and the authenticity of every fragment and of every detail, should be guarded with a jealous jealousy for their value as the most trustworthy and the most genuine illustrations of the rise and development of that wonderful style of art.

It is perfectly inexplicable to me how the very same persons can at one time bring cogent arguments forward to prove that their country was the nursing mother of Medieval art, and at the next should deliberately and without necessity, take down from her noblest architectural monuments original details of the most exquisite description which imagination can picture, and which have suffered comparatively little from time, and replace them in modern copies. Yet this is the course of proceeding going forward from the one to the other, that not by one architect in particular, but, in a greater or less degree, by all the architects who are engaged in the restoration of the ancient monuments of France.

In that country we have to applaud the generosity of the Government in undertaking on so magnificent a scale the restoration of its ancient architectural remains. We have not, as sometimes with ourselves, to lament the employment of persons of dubious capability; for the work is generally in the hands of men of the greatest eminence and of undoubted skill and knowledge; nor have we to complain of any want of artistic power in the carrying out of the works, for in this we must acknowledge ourselves to be in many cases surpassed. What we do lament, to deprecate, and to prize again, is the inexplicable want of appreciation of the value of the authenticity and the original *bona fide* genuineness of old work, which leads them to reject without scruple or remorse the most charming original work for some more trifling defect, and to feel perfectly satisfied with a copy which, though it may be lifelike from the very fact of its being a copy, and which, even if as good as the original, must be utterly devoid of the interest and historical value which attaches to it. The extent to which this feeling, and the course which results from it, extends itself is so lamentable that it is sometimes difficult to discern to replace the ancient monuments of the country by mere copies of them. True it is that these copies are admirable in execution, and careful and studious in their correctness; but who cares for a copy if he can get the original? or who will ever look for the details of the French cathedrals in the nineteenth century? And it is not the examples of Polished architecture alone which are being thus tampered with but even the curious Byzantine remains in southern France and the classic monuments at Nîmes. When I was present at some lectures, a lecture for the Royal Academy on the rise of Polished architecture, I had a great desire to see a drawing of any capitals which might exist at Périgueux, and on making inquiry of a friend who had just been there, he said, "Oh! I could have got you one if I had known, for the old ones were lying about among the old materials." One hears a story of an American who, after looking at the new works always going on at the Coliseum, remarked, with very just irony, "It'll be a very fine building when it's finished." And I learn from our excellent secretary, Mr. Lewis, that the very same thing is going on now at the Amphitheatre.

Even Caracosse, so famous and so interesting as a city—almost deserted before the close of the middle ages, and consequently a wonderful genuine specimen of a Medieval city—is, as I learn from Mr. Lewis, being renewed and made into a (no doubt very learned) model of that of which it was the dilapidated original!

A visit to the Hotel Cluny affords a practical commentary upon this system of restoration by renewal. We see there capitals from the Sainte Chapelle of an exquisite subtilty of carving, and sculpture, such as to lead many to any one who would think of transferring their spirit to a copy—and yet thrown aside and laid on the grass-plot, in all weathers, though to the casual observer almost as perfect as if new; one sees there the real angels whose counterfeits blow the fragments of the Resurrection over the great portal of Notre Dame; one sees a central pillar of the same portal looking nearly as well conditioned as its modern supplanter; one sees also balustrades from the parapets of the Sainte Chapelle as good as new; and many other exquisite details rejected from the modern edifices which are known to have been the source of them. I need not tell the same story. Indeed, wherever a great restoration is going on, you may see the genuine old details, often scarcely corroded by time, lying in rejected and neglected heap by the side.

I let me say in the name of good sense and good feeling, why the great learning, skill, and judgment of the (often illustrious) architect to these works is not rather directed to the conservation *in situ* of every fragment of the noble architecture which they understand so thoroughly, rather than to its supplantation to make way for more modern copies, however lifelike they may be, and value as genuine exponents of the style? If they would take the contrary course, I can aver without fear of contradiction, from the talent and learning they display, that their works would be worthy objects of the pride of their own countrymen and of the gratitude and admiration of all the nations of the world. Instead of being, as now, causes of regret and disappointment to all. But, it may be asked, what business is this of ours? Why do we not correct our own errors, and leave architects of other countries to do as they like? I reply, that the French architect and artist—historian and architect—has been the cause of the fact that theirs is the mother-country of Gothic architecture, have thereby made its

productions the property of Europe and of the world; and that, on their own showing, all lovers of Gothic architecture have an almost equal claim upon them for their interest and their contentment.

I have dwelt so long upon the principal heads of my subject that I must but slightly touch upon that which remains: I mean the preservation of the miscellaneous remnants of antiquity, which form my third class.

These are, more than any other, subjected to the constant inroads of Vandalism. Even the reverend conservators of our cathedrals care little for the fragmentary remains by which they are surrounded, and often rather wonder at the weakness of those who lift up their voices in their favor. The very same man who takes an unreluctant interest in the preservation of the cathedral of which the church cannot be brought to care about the equally interesting though simpler structures, whose vestiges are intermingled with their own residential houses, and would have no scruple in destroying the most interesting antiquities to make way for his passing matter.

At Worcester it is only a few months since the ancient Glastonbury Hall was threatened with destruction. At Ely the huge Abbey Barn was destroyed only a few years back, and nearly everywhere the same spirit may be found to be at work. It is the duty of an Institute like this to protest against it, as they have lately to their honor done in several kindred cases.

One can hardly expect better things of a town council, when chapters of cathedrals set the example; but one must, in passing, protest against the deliberate barbarism which has within a few years destroyed the curious old town-halls of Hereford and Leicester.

Our country villages, and the country itself, are full of small fragments of ancient architecture, often not of very early date, but of most valuable character, and which are everywhere threatened with destruction. It is not only the works of high antiquity, but to timber houses, old brick (or other) chimneys, shafts, old gable-houses of stone or brick, and a thousand other fragments of old buildings, which add so much to the character of our villages, &c., and are also so valuable for the study of the rise and development of the architecture which they watched by those who have it in their power to do so. Village and churchyard crosses, the remains of old domestic architecture in our towns and cities, old manor-houses, hospitals, schools, colleges, &c., and a thousand other classes of buildings demand equal care; and, last of all, I would mention old bridges, which are far more numerous than one would suppose, and which are less seen than most classes of antiquities, from the fact that we pass over, and, therefore, cannot get a view of them. These have very frequently been preserved intact on one side, and on the other a new bridge has been built, as the roadway which they provide is usually too narrow for our present needs. Though not great engineering works, they have a noble character, and occasionally attain to considerable span; as in the case of one at Durham, which approaches 100 feet in length, a modern engine, a modern crane, and a modern screw of the same span has failed in making his work stand so well as the old one.

I have, however, made my paper far too long, and must sum up briefly, as follows:—

Our old architectural monuments are of the utmost value and interest to us as Englishmen and as architects, and their conservation is a matter of vital importance.

II. What with neglect, vandalism, natural decay, and ill-judged restorations, of which the integrity or authenticity of these invaluable remains is threatened from all sides, and fearful inroads upon them are every year being made.

And finally, it is the paramount duty of an institution such as ours—the only one of a permanent character by which architecture is represented—to take the initiative in the design of a commission, in conjunction with the antiquarian society, a code of rules for the treatment of buildings requiring restoration, and to take such measures as their united wisdom may suggest to promote the true, faithful, and authentic conservation of these monuments and remains.

In conclusion, then, I beg to propose that a standing committee be appointed for this purpose, and that they be empowered to act in conjunction with, and to communicate with other societies, with a view to secure their co-operation in carrying out this most important object.

## COMPETITION FOR THE NEW HOUSES OF PARLIAMENT AT SYDNEY.

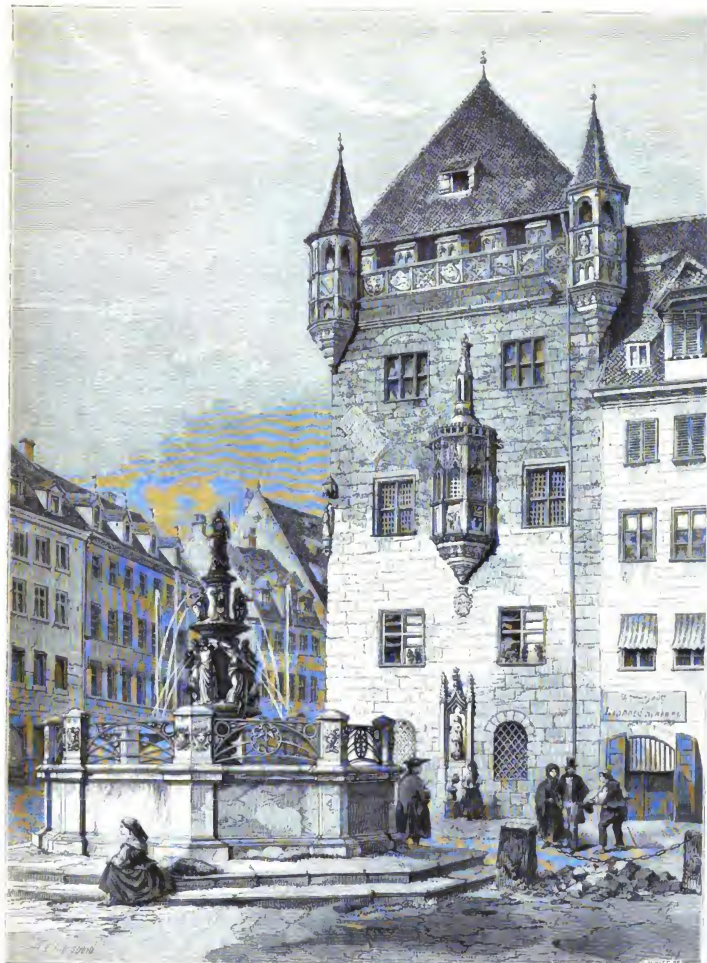
WE learn that the designs for the new Houses of Parliament at Sydney, and of which twenty-one were sent in, have at last passed under the examination of the Board of Commissioners, and that for two of them premiums have been awarded. On the 9th of November the Commissioners met, and were unanimous in their adjudication. The first premium of £1000 was awarded to the design of Mr. William Henry Lynn, of Sackville-street, Dublin. It is in the Gothic style, its most prominent feature being a succession of lofty towers, including a campanile; the high pitched roof and windows being high. The Gothic design there is a central tower, the roof of which is relieved by the broken outline, rich effects being produced by frequent and ornamented projections. The cost of carrying this design into effect is estimated by the colonial architect at £242,300.

The architects who obtained the second premium, are Messrs. Stent and Laver, of Great Portland-street, Portland-place. They sent two designs, the one Classic and the other Gothic. The Classic design presents a row of Corinthian columns, with massive entablature and pediment, and crowned by an octagonal tower. The Gothic design there is a central tower, the roof of which is relieved by the broken outline, rich effects being produced by frequent and ornamented projections.

In considering their award in this case, the Commissioners regarded both designs favorably, but actually gave it for the last named. The estimated cost of carrying out the Classic design is £256,641, that for the Gothic £243,118.

Mr. Stent and Laver are the architects for the Parliament buildings now being erected at Ottawa, Canada West, the foundation stone of which was laid, it will be remembered, by the Prince of Wales, in August of last year. Five only of the competitive designs were the production of colonial architects.

BESSON'S WATCHES AND CLOCKS.—"Perfection of mechanism,"—*Morning Post* watches 2 to 10 guineas; silver watches 2 to 10 guineas; gold watches 2 to 10 guineas, five for two stamps, descriptive of every construction of watch, enables persons in any part of the world to select with the greatest certainty the watch best adapted to their taste, time, and safe by post or otherwise, a return of 25 per cent. J. W. BESSON, 23 and 24, Laing-street, 46 and 47, Cornhill, E.C. Established 1749.



NASSAUER HAUS, NUREMBERG.

## ON PUBLIC MEMORIALS.

BY no works is the state of art in a country more judged on by foreigners than by the visiting artists, than by the last new states, colonies, crown, or any other form of new state, up to the present. No state is more sure to be brought out by strangers and foreigners than the state of art, of whatever kind, that has been recently created as a testimony of the respect and gratitude of the nation, to a great and good man, known not only in this country, but all over the Continent, or, perhaps, throughout the world. Everyone that has heard of him (and, perhaps, many have much admired his character, and taken a daily interest in his actions while he was living), is sure to be anxious to see what sort of memorial has been reared in honor of him.

Is it worthy of the man to whom it is devoted? Is it worthy of the age which he helped to enlighten and improve? Is it calculated to keep in the minds of those who see it his character, circumstances, and history? If to celebrate an event, and not an individual, does it do so worthily and distinctively? Does it, in fine, do all that is possible to be done by a memorial? These are the questions which a memorial ought to and might fairly raise. Questions varied as the individuals to whom gaze at them, but mostly to such end and purpose, either pass silently through the minds, or are given audible expression to by the different classes of spectators; and, according to the answers given to them by the memorials themselves, are the opinions of the thinking men of the day in all countries to a large extent referred to, and the country, and as to the capacity of the people for producing great works of art.

Independently of the public attention naturally called to works of art of this kind, by their association and connexion with men of perhaps, Continental reputation, or with events of perhaps international importance, public materials are more open to public criticism, and more liable to be taken as evidence of the character of the nation, than private materials. The materials to be chosen, are naturally the best known, the most public, and the most conspicuous—the public square, the public gardens, the public parks: they stand out in front of the public buildings, may be the only object of art in a public place, and are used on the only resting and breathing place of a public crossing in a public street.

Not wherever paid they always are objects of curiosity and interest, for some time after their erection, to the inhabitants of the city or town in which they are erected. And to foreigners and other visitors to that city or town, they become from henceforth special objects and things that must be seen, so long as they remain in the place. I have seen many of these monuments in the cities and towns that have not been before visited in the minds of those whom I am now addressing? Do not the memorials in the public streets, or in the churches have much to do with the character of art given by each of you, to the country in which you visit? If so, it is an important subject, both to the profession and to the nation. I will not say that I have not seen many of these monuments, but that I consider necessary to be thought of and kept in mind, both in selecting and designing public memorials. I think that the designs for public memorials should always be selected by public competition, by which I mean one open to all, and not a lottery, and not a limited one, in which some half dozen men are invited to compete.

I have been led to this opinion for the following reasons:—That public monuments, as usually erected, have the special peculiarity of being on a desolate land, between architecture and sculpture, and properly belonging to both; that the public monuments of the past have been put on a pedestal before the promoters of the scheme in a clearer and more impartial way than any other mode the respective merits in that particular case of the sculpture and architecture; that the monuments of the past have been either architecturally designed, combining both; that it affords to those who are to have the management of it and the selection of the mode of carrying it out the opportunity of making a selection of the mode of carrying it out, and of selection in a special case—happy augurations, perhaps, that may altogether alter the mode in which the money subscribed is to be spent, and yet more fitly show the way to the memory, and hand down to posterity the peculiar characteristics of that particular case.

I think it well that the committees in these cases—but in these cases, of course, only—should not too closely specify the peculiar mode of structure that they propose to raise.

I say that the precise kind or form of building should not be too closely specified only for this reason, because I am of opinion that, were the question whether architectural or purely sculptural memorials should be selected decided after receiving the designs, and not before, that in a short time those erected for the future would be much improved, and we should have a much greater chance of seeing in them that happy mixture which we now seldom see, and which I cannot but think desirable.

Public memorials may consist of any out of a great variety of structures, many buildings that are not necessarily so in themselves becoming so by being selected as suitable in peculiar cases; and few of us can otherwise than think that in raising some useful institution or public building, devoted to a special purpose, but of a nature to be useful to and promote the prosperity and wellbeing of the nation at large, the respect and gratitude of the nation are better shown than in erecting a statue. In this way, more than in any other, are the peculiar merits, peculiar labors, and peculiar character of the man recorded to whose memory and honor it is erected.

Can you better honor and show forth the peculiar character, labors, and merits of a scholar than by founding a school or college and calling it by his name?—or a philanthropist or public benefactor, than by endowing a hospital, bath, or other building of public use and benefit?—or by establishing in his native town, or in objects which he in his lifetime labored to advance in his native town, or the town in which he dwelt and which he loved to improve and benefit, or in a place in which it is more wanted—a deviation from the ordinary rule which you know would be in accordance with the spirit in which he acted when he was alive?

So we will first consider the peculiar modes of treatment necessary to be kept in mind in this mode of raising a memorial to a public man by raising a building and institution of the kind that most harmonises with his tastes, objects, and labors during his lifetime.

In this case we must take care not to lose sight of the special object of the founding, in the useful objects of the building. A statue of the person to be kept in remembrance should be placed in a conspicuous position in the building, and

in the lower portions bas-reliefs should be introduced, where they can be well seen, representing his struggles, his labors, and the peculiar good he did; and the anterior may very appropriately have among its decorations, views of the house in which he was born, the places most associated with him as the scenes of his successes or his useful labor; while other frescos on the walls may be well filled with a series of historical scenes, in which he acted a prominent part. While, if he was a successful inventor, or helped materially to develop or improve some new branch of manufacture, illustrations of the scientific inventions, peculiar modes of manufacturing and representations of the particular art-manufacture produced, may, if skillfully treated, help to fulfil the historical and memorial purposes of the building, and also to vary and enrich its decoration.

The commemoration of any great and good public man, by a single statue representing him, executed in either marble or bronze, and placed on a pedestal, is a custom which we find among the Greeks and Romans, and which we have derived from the Renaissance architects, who revived the custom of the Romans with their architecture.

In the various museums at home and abroad, we find some very beautiful examples of such, of emperors and citizens, graceful and dignified, mostly, however, by Greek artists. In the Museum at Naples are some fine examples of Roman equestrian statues. The Renaissance sculptors took these as models; as, for instance, Verrocchio's statue of the celebrated Italian equestrian statue of Marcus Aurelius, in the Capitol at Rome. His bronze statue of Erasmo da Narni, commonly known as Galleatiano, executed for the Signoria of Venice about 1460. This was the first equestrian statue of modern times; this, a cast of which is to be seen in the Crystal Palace, is a fine example of its class, and one well worthy of study. Our own Charles the First is another early example of the equestrian statue, and a fine example of the artistic treatment of this important member of this form of memorial.

The designing and treatment of the pedestal is one of the weakest points in our modern sculpture memorials. Sculptors at the present time, seldom or never being employed as architects, and therefore not remembering it necessary to consider the general composition, and the importance in Roman times, their pedestals generally consist of a few blocks of stone, which could have been as commonly erected in our squares and streets, a single statue on a pedestal, without anything on that pedestal to indicate what the occupation, attainments, and achievements of the person represented were, always appears to me but a poor representation of the man, and a less than adequate representation of the creative art of the country. I would at least add four bas-reliefs, if not, if nothing more could be done; and in those four bas-reliefs much could be shown, of why the statue of that man was raised on the pedestal. Thus enriched and increased in value as a memorial statue, a naturally and yet majestically designed statue would be a more fitting and more appropriate proportioned pedestal, a graceful and pleasing ornament in the public street.

What a pity that so fine a statue as the Richard I., of Marochetti, should be on so miserable a pedestal; let us hope that the English copy of Foley's *Hardinge* will be placed on a pedestal more worthy of so great a work. A pedestal for an equestrian statue requires to be much higher, more important, and of a much bolder character than that at Westminster.

But as the principal ornament in a large space, a single statue or pedestal is not sufficiently important, and something more of a structure is naturally called for; and then come very conflicting opinions as to what should be erected, which have been brought up with the idea that nothing is so fitting as an obelisk, which has been used by all nations from antiquity down to modern times, and for this purpose, but being precious on account of being monoliths, and on account of the cost of working and the cost of transport and raising in their places, they were reserved for the most august occasions. In the Egyptian temples sides contained the inscriptions setting forth the name of the King who dedicated them and the deity to whom they were dedicated. The Romans who transported them from Egypt were the first to use them as memorials or pillars of victory. I am not aware that they were ever used since, except at Rome, where it is true that very thing is very often erected; but I must say that, with all respect for the ancient Egyptians—and a very great respect I have for them—though a grand monument to our allies, it is always sorry to see them used to commemorate our successes in other countries. It is natural enough, and the votaries of those massive remembrances seem to me to admit their weak points by adding to them all sorts of devices which have little other effect than that of diminishing their

manuscript elegantly designed and completely carried out, another very favorite form of grand and appropriate, although in its usual form objectionable from being a member of a building diverted from its original use; I allude to the singular man with or without statue. The use of this kindred forms for this very purpose is not new, but it is not less common. The famous monument erected by the executed capital and surmounted by a lion, erected by Aśoka in the middle of the third century B.C., commemorative of his having adopted the Buddhist religion, is a fine example of the creed and practice of the Buddhists; and the Shāh-ro-erected one, the famous victory at Delhi. These are the only two. In Cānuā are two built examples of pillars, rudely imitative of these; probably Buddhist monuments commemorative of some sacred spot or great event. In the same manner, the great pillars of the temple of the goddess at Kānā are in the support and decoration of their temples, but with this difference that several of them were ornamented with sculpture. At Alexandria was one erected by Diocletian; at Arisae by Alexander Severus, and at Myssas. All these

In Roman times, two of the Doric orders, that of Trajan and Marcus Aurelius. There is one shown in Mr. Ferguson's Handbook of a very elegant and aggressive form. The shaft is ornamented with a scale-like pattern of leaves and its base is surrounded by eight statues; it is at Caesari, near Beasim, in Persia, and probably belongs to the time of Aurelian. Very nearly the same, those of the temple of the Sun at Palmyra, in Syria, being distinguished by the absence of the papyrus-bundle at the top. The shafts of the columns are also decorated with objects as the pillar, from being an essentially supporting member wrongly used when isolated, are towers, which, from very early date, have been used for this purpose; that is to say, as pillars of victory, in India, by the Buddhists, and in Persia, by the Sassanians. The same use has been made of the column in Sarcenic architecture; prevailed, especially in those countries where the custom had originally existed. At Chitaur, in India, is a remarkably beautiful example of these, or pillars of victory, built in later times by the Jains; it was erected by Kumbhar Rana, to commemorate his victory over Mahmood of Malwa, in the year 1430.

In China, we find the pagodas erected as memorials. The celebrated porcelain

\* A paper read by Mr. RANDALL DRUCE, before the Architectural Association, on 17th January.

tower at Nankin was erected in 1412, as a monument of gratitude to an emperor of the Ming family. It is octagonal, and 250 ft. high, and owes its beauty of effect almost entirely to the brilliancy of the coating of porcelain, with which both the walls and both sides of its projecting roof are covered.

The second bar podium on the Canton River is also commensurate; it is a pillar of victory, erected to commemorate a naval victory; so that we see that pillars and their kindred forms have been both used from very early date for this purpose, and also in very widely parted, and different countries; and the Roman examples have been copied or taken as types of many similar memorials in Paris and all over the Continent. In various times we find them used at Venice, in front of the Doge's palace, and I remember a very beautiful little example of Italian Gothic work in one of the streets of Florence, supporting four canopied niches filled with sculpture.

I do not think that in this country we have been happy in our adaptations of the Roman form, but that they allowed to have a happy chance, for who ought to judge of the merits of a structure till it is finished? and our Nelson column still lacks its lions. When shall we see them?

But as long as the Classic style was the only one in which this—in itself certainly good and appropriate form—was supposed to be admissible, it was difficult to do much that was original, or differing much from those already erected; but now, many thanks to a recent example set in this metropolis, we are set free, and columns as varied as the columns in our different churches and other buildings, may, at least, take their turn with other forms, and with their pedestals, ornamented by bas-reliefs, or supporters—animals, may be, or figures, bases, hands, capitals, and crowning figure, give great scope for skill in design, taste, and sculptural execution. A picturesque form is to be sought in Switzerland, in the mountainous country, where the towers, with column, with carved capital, supporting a statue of some local hero, standing in the centre of the round or octagonal basin of a fountain or conduit, suggesting the useful combination in the streets of our towns of memorials and drinking-fountains.\*

#### MR. DIGBY WYATT ON THE ARTS IN ITALY.

THE name of Quintino Sella, the mathematician, economist, and orator, that of one of the most rising men of the present generation of Italians, will ever be held in esteem by his countrymen, if on no other grounds, from the honorable connexion which must always exist between his memory and that of the signal manifestation of his capabilities, in the management of the policy of view, which will mainly engage our attention this evening—the first made since the yoke which has so long impeded their satisfactory development has been at least partially removed from the shoulders of a race whose attachment to Fine and Decorative Art has become perennial.

Mr. Quintino Sella, and to his exertions in the Italian Parliament, that nation is indebted for the conversion of an Exhibition, limited, as originally contemplated, to the illustration of Tuscan manufactures only, into one in which evidence, greater or less, according to circumstances, is to be found of the artistic and industrial capabilities of all the principal States of the peninsula, and whose existence as such, every well-wisher to the cause of liberty, and every one who honors the ancient traditions of excellence in design still preserved in that favored land, must ardently desire should be preserved.

The work of the State who would so minutely characterise individual productions, so far removed from the eyes of those he may have to address, as to render impossible any appeal on their parts from his judgment to material evidence, must, it appears to me, be like unjust to those whose works may be criticised, tedious to those addressed, and to one-sided in the either interesting or profitable. I propose, therefore, this evening to take a broader view of the entire subject of the Italian Decorative and Industrial Arts than I should probably do, if the means of rectifying any errors of individual judgment on my part, were within the reach of those to whom I venture to offer the following observations.

The natural sequence of emotions most readily to be imagined as occurring to an educated Englishman on entering the Exhibition buildings at Florence would be, as it appears to me, somewhat as follows:—Firstly, his memory would revert to those old glories of the days of Florentine independence, and the Venetian magnificence, and of Roman Pontifical authority, in which the fine and decorative arts are known to have reached a pitch of perfection scarcely rivalled in the palmiest days of Greece and of the Augustan empire. He would naturally ask himself what the Italians of the present day were like, and whether they were waned, and under what social conditions they were developed?

His second inquiry would naturally be, how much of that ancient power still lingers in the hands of the descendants of those by whom the original greatness was attained?

The third subject of investigation would probably be, after taking stock of the present, what materials still exist amongst the Italians likely to carry to a higher perfection than has been as yet attained in recent times the arts which he finds in the present.

Recognising, as no one can fail to do, the retarding influences which have so long operated to fetter and depress the wonted vivacity of that highly imaginative people, it is indeed an interesting problem to endeavor to trace the direction in which a greater degree of personal liberty than they have hitherto been permitted to enjoy would lead to, and to realize the results which might be expected to be shadowed by a beneficial condition of social oppression. From her past and her present may thus, to a certain extent, be ascertained an Italian future.

In all this, doubtless, there must be some moral for us; and the fourth aspect on which any Englishman, anxious for the augmentation of his country's greatness, would naturally regard the present evidences of capacity manifested at Florence, would be to consider what concurrent improvement his countrymen may derive from the lessons to be at present learnt in Italy?

The following series of inquiries, if they are not too grossly grouped in subordination to these four leading aspects, under which this subject may be regarded. We shall, therefore, consider first—and far too briefly for the grandeur of the theme—what the old Italian arts and industries were.

As compared to the position in which the Italian arts stood at the Great Exhibition of 1851 rested, as likely to prove an important element in preparing the way for a

due appreciation of that great display, that a collection of works, illustrating the perfection to which industrial processes had been carried in ancient and medieval times, should be submitted for general study and investigation by the public previous to their being called upon to estimate the relative value of corresponding contemporary processes. Many of these I have the honor of addressing cannot forget the success which attended that Exhibition, inaugurated by the Emperor of the anspies, and mainly through the direct action, of the Society of Arts.

A similar idea seems to have struck the Italians, and to have led to the bringing together a very remarkable collection of specimens of ancient Italian work, which, through the action of the Academy of the Sciences, and of a fine medical man and distinguished connoisseur, the Doctor Gasnelli, whose energy has already tended to infuse new life into the administration of the Florentine museums. Several of the principal Italian families co-operated in this good work, the proceeds arising from which, it was determined, should be voted to charity.

Within the walls of a large house in the new piazza dell'Indipendenza, were consequently crowded together a great quantity of objects, illustrating almost all those industries with the choicest specimens of which Italy was wont, from the end of the fourteenth to the beginning of the seventeenth century, to supply the factitious necessities of the most highly cultivated portion of the royalty, aristocracy, and rich "bourgeoisie" of Europe.

With such examples of these arts as we may be now thankful to possess in the Museum of Science and Art, Kensington, it is little necessary for me to dwell in detail upon the classes of objects collected in the Casa Gasnelli. It may be sufficient to say that bronzes worthy, if not wrought by the hands, of men such as Ghiberti, Cellini, Donatello, Michelangelo, and John of Bologna, were not wanting. Nor were Venetian glass, and the armorial and armor, Sienese and Florentine illuminations, Umbrian Majolica, enameled of various kinds, goldsmith's work, ivory, enamel, medals, lacquer of commesso, or mosaics, and coins, carv bouilli, tapestries, rare tissues, lacquer of commesso, or mosaics, lacquer, or carquetry, and marble, ivory, and wood carving.

Where so much was beautiful it seems almost invidious to dwell upon points of remarkable interest; but it would be treason to the royalty of excellence to pass over even the most especially celebrated, and the most beautiful, and the most brought under public notice after age of modern art, if not neglect.

The most interesting of all was probably that pattern in bronze, which Vasari relates that Donatello worked for the noble Casa Martelli, to show how perfectly it was within his power to rival the exquisite fragments of antique bronzes casting and chasing which in his days were as much the rage amongst great Italian collectors as Majolica and "vieux Sèvres" have been lately among French and English. As perfect almost as it could have been when it left the hands of that rare artist, this beautiful piece of sculpture justifies all the praises which Cicognani has lavished upon it, and is preserved upon it in the Casa Gasnelli.

Another specimen, of little less historical interest, was the bust in marble, representing Marietta Strozzi, with of Cello Calcagnini di Ferraro, by that great sculptor, who unfortunately died too young to leave much behind him, Desiderio da Settignano. Jealously preserved in the family of her descendants in that palace, the architecture of which, by Benedetto da Majano and Pollaiuolo, has mainly stamped the Tuscan palatial style with its easily recognized distinctive features, there can be no doubt of the true descent of this beautifully preserved work.

Another item, small in bulk, though great in artistic value, was also contributed from the same collection—a little key in chased steel, ascribed to Benvenuto Cellini, and, if not actually executed by him, eminently worthy of his most delicious work, and of that skill which he appears to have acquired in the workshop of Paolo Antonio, the Milanese.

Probably, as far as unique curiosity is concerned, the most interesting groups of objects in this collection, were the very important series of coins of different Italian cities and mints; the medals of illustrious personages, by Pisanello, Sperandio, Cellini, Pollaiuolo, and others; and a very curious collection of cut and stamped leather work, which the energies of the purchasers for the South Kensington Museum may, I hope, ere this have acquired for our admiration in this country.

Important as the objects in this collection unquestionably were, as filling up the detail of the still-life of those pictures, in which the states Gonzagui, Medici, Strozzi, and Doria occupied the foreground, it is of course in the great monuments and permanent museums of the country that we learn to recognise how large a share, in the perfection of the arts, as it has been said, has been attained in the noblest efforts of the architect, the painter, and the sculptor.

It is precisely in this union of imagination of the loftiest kind with perfect technical dexterity in the production of the most exact and the most minute scale, that the great strength of the excellence of the finest Italian design in old time consists. All these relics, whether taking the form of gigantic churches, of stately palaces, of heroic works of sculpture, of extensive frescoes, of elaborate tapestries, of jewelry, and even of the most delicate and the most indispensable to personal enjoyment, art then was.

Every student of the "Divina Commedia" must remember the almost passionate terms in which Dante mourns over that transition from simplicity of life and manners to a luxurious indulgence of the intellect and senses, which no contemporary was so intelligent, were even so far from being a curse. Long and vainly the noblest stroke during the fourteenth and fifteenth centuries, and the sixteenth, themselves a monopoly in splendor, but wealth accumulating in the hands of the citizens ultimately broke up their intellectual blockade. How, and with what results, may be traced in the chronicles of Villani and others; in the excellent "Discorso di Guglielmo Manzi sopra gli spettacoli, le feste, ed il lusso degli Italiani nel secolo XIV," and in Muratori's grand collection of writers "rerum italicarum."

Out of the superabundant gains of the industry and commerce of Florence, Siena, Genoa, Venice, Lucca, Pisa, and Milan, and out of the accumulated riches of the nobles, the most successful private citizens, and the most minute scale, that the great strength of the excellence of the finest Italian design in old time consists. All these relics, whether taking the form of gigantic churches, of stately palaces, of heroic works of sculpture, of extensive frescoes, of elaborate tapestries, of jewelry, and even of the most delicate and the most indispensable to personal enjoyment, art then was.

\* To be continued.  
\* Paper "On the Present Aspect of the Fine and Decorative Arts in Italy," with special reference to the Recent Exhibition of 1861, read before the Society of Arts on Wednesday, January 22nd, by Mr. DIGBY WYATT.

St. Mark's, at Venice; St. Peter's, at Rome; the Certosa, at Pavia; St. Anthony, at Padua; and the churches of the Annunziata and S. Matteo, at Treviso, appear almost beyond comparison; while not only in monuments such as adorn these cities is the boldest dimension and the grandest scale adopted, but every inch of wall surface, and every piece of church furniture, however insignificant, is made as elaborate as human ingenuity and human hands can contrive it.

To such an exuberant extent was this apparent craving for enrichment indulged, that where, as happened in many cases, funds were wanting to complete the ambitious designs of the founder of some great monument, his successors, rather than to stop the work, or to leave it unfinished, endeavored to realize by paint and every kind of ingenuous expedient, the effect so ardently desired by the original founder of the edifice. Hence proceed many of those illusive perspectives which almost convert flatland into airy capodans, and carry out the eye of the visitor in the *salone* or grand apartment of the *piano nobile*, or principal floor, of the residence, through airy and airy, interminable arcades, to an exuberant landscape, alive with statues and fountains.

An amusing definition of what an Italian of the sixteenth century understood as indispensable domestic ornaments may be found in a little book written by Castiglione Salvi, entitled "L'arte di governare l'huomo," and for a reference to which, and indeed for the loan of which, I am obliged to the kindness of Sir Charles Eastlake. In one chapter the writer tells us how pleasing to the eye and how necessary are *terra cotta* by such men as Paganino da Modena; and instruments by Giovanni da Pavia, or Bustino da Mantova, the services should be supplied by Michel Angelo, Donatello, Alfonso Lombardi (one of the great Venetian Lombardi), and Cristoforo Romano. Antique medals, he says, are necessary, as well as those of Giovanni Corona, of Venice. Verocchio and Leonardo, he says, should be applied to the *stanzas*; and canons and intaglios should be by Pietro Maria, and by Giovanni. The *stanzas* should be decorated with designs by the most worthy painters given by the author, but not so the terms in which he notices the *marquetry* works of Fra Daniello da Bergamo, and the armour and glass work, the current productions of Milan and Venice.

To thoroughly supply the demand for such objects, which, as yet exist, more particularly in the great Florentine collection of drawings by the old masters in the galleries of the Uffizi, ample evidences of the powers in designing engraving, as applied to industrial productions, possessed by artists whose modern special fame rests upon what we believe to be contrasting grounds from such classes of art, by designating as fine art. To enumerate a few of these may not be unprofitable, by way of directing the attention of young artists to some of the worthiest masters of their craft.

As designers of wood and marble carving we note the names of Baldassare Peruzzi, the great Sicilian architect, Giovanni Vignola, Raffaele da Monte Lupo, Michael Angelo, Montorsoli, Gagliardo della Porta, Il Riccio (the author of the magnificent candle-brush in bronze at the Church of St. Anthony, at Padua), Giovanni Battista Troni, better known as Il Incolosso, Lilio da Novellara, and a host of exquisite engravers, Francesco Salviati, Paolo Verocchio, and with designs by Giovanni Battista, Ceronini, and Marco da Faenza; and for *terricca* with those of Gaudenzio da Ferrara, Giulio Campi, and Amico Aspertini. For miscellaneous designs of all kinds we find beautiful studies by Pierro del Francesco, Goussier, Francesco Salviati, Paolo Verocchio, and others, and by Cellini, Bernardino Poccetti, Giulio Romano, and many others brought their great accomplishments to bear upon the production of beautiful metal work, while Pellegrino, Tiziano, Matturino, Morio da Felino, Giovanni da Udine, Hanswever, Plinrichio, Pietro Perugino, and many others, along in arabesques and carved descriptions of figures. Their exact degree of interest to the smaller wares of the great Italian nobles, led, in many cases, to the artists so excelling their lesser talents (if they may be so described) receiving commissions calculated to bring out their capabilities in the loftiest directions.

Any one desirous of tracing the important part which the requirements of industrial art played in the lives of many of the most eminent Italian artists, and which I cannot now do more than point to, may find ample materials awaiting his investigation in the autobiographies of Ghiberti and Cellini, in the writings of Vasari and Baldinucci, in the "lettere scritte" of Della Valle, in the Italianische Forschungen of Von Rönne, in the *Beiträge zur Kunstgeschichte* of Forster, and last, not least, in the collections of original notes and documents illustrating the history of Italian art, by Gay, Gaudenzi, Carlo Pini, and the brothers Milanesi.

Did I have permit, I would willingly dwell in detail on mosaic, stucco, intarsia, terra cotta, and fresco painting, *terra cotta*, majolica, stucco, niello, glass making, and others of those arts, transmitted by the curious MS. treatises known as "secrets" from generation to generation, in which Italy so long enjoyed a monopoly of celebrity, if not of actual production; but I feel that the second hour of this evening is too important to be so enjoyed for matters even of such interest as I do not doubt these ancient arts of Italy might be made to assume.

Turning from their yesterday to their to-day, we cannot but observe that, in almost every department in which the succeeding are called, the most valuable exhibit, if not a considerable portion of production, of the most remarkable exceptional proficiency; and if not within the walls of the Florentine Exhibition, at least in contemporary art-productions elsewhere, we may trace a partial revival of almost every ancient process known to the Italians of Medicean times.

It is probably in the purely Fine Arts that the principal degeneracy is to be recognised; in the strictly technical there exists by no means the same falling away. The reason for this may not be hard to trace, in the amount of liberty which has for many years past been granted to the artist, and the consequent exuberance with that moral and mental subjection in which the middle classes have been held. Whilst every-day necessity, and the passage of interminable "foresters," have created sufficient demand to stimulate the capabilities of the workmen, the unscrupulous hopefulness of their employers has unquestionably deferred much, from the middle classes, would have been produced by the designers, from entering upon those severe studies by which alone excellence in the higher branches of art can be attained.

To proceed with some little method, it will be well to take first of all the three great recs of Fine Arts—Architecture, Painting, and Sculpture; and then the leading art-industries in succession, noting briefly the apparent condition of each, in Italy at the present date.

With regard to architecture it may be observed that the pernicious influence exerted by Bernali and Borromini, whose trivialities obtained excessive vogue

during the greater part of the seventeenth century, tended to the production of that rococo style which caused a great deterioration in the finest ornament of the Roman Empire, and Northern Italy. But, extraneous as Borromini was, in the colonnade of St. Peter's and in the Church of St. Agnese, in the Piazza Navona, at Rome, by great facility of design and a certain not unobscure bravura of style, Borromini's followers, Giulio and Giovanni, have been, and are demonstrated by an *argumentum ad absurdum*, the ridiculous consequences of adopting the whimsicalities of Borromini.

The brilliant talents of Vignola, and the majestic scale upon which he wrought the immense palace at Caserta, tend to restore the dignity of his art during the greater part of the eighteenth century; and showed that magnificence and grand conceptions of pictorial effect had not yet deserted Italian architecture. From his death, in 1773, architecture, and ornament also, greatly declined; and although monuments upon a large scale have been frequently erected in Italy, but few of these are worthy, in any quality excepting that of scale, to rank with the pure taste of earlier times.

The feeble Classicisms of the style of the Empire were generally slavishly reproduced in Italy during the early part of the present century; and until comparatively recent years little of considerable merit has been introduced.

The works of Piranesi, Albertoni, Cicognani, and Canina, and the illustration principally by foreigners—such as Percier and Fontaine, Mazois, Grandjean, Pavin and Montigny, Goussier, Letarouzy, Zaba, Gutsenbock, and Thiermer, Greuter, Taylor and Creevy, Willis, and Hoesmer—of their great monuments of art, have led to a return to a purer class of architectural ornament than had been previously in vogue; while the earnest writings of the Count Selvatico, and the translation of Rio's "Poésie Chrétienne," have introduced to the Italian architects those rational principles of design, including the treatment of construction, and the treatment of ornament, originally laid down by the English architect, Pugin.

The great scale of the existing edifices, and the reparations which it has been necessary to make from time to time to save them from destruction, have constantly maintained Italian artists in the practice of rivaling the ancient work; so that in every department of architecture, and in every branch of the art, the architects, and the workmen, have been, at least about perfectly capable of carrying out the most difficult designs.

No better illustration of this abundant material power could probably be given than the rapidity and dexterity with which the buildings for the Exhibition were adapted to recent plans, and in a few weeks only a most skillful direction of the architects, Signor Prossenti, of Cortona, and Martelli, of Florence.

The feeble academic system which has until recently prevailed, and under which the professional chairs were not unfrequently occupied by political parades rather than by fully qualified professors of real abilities—coupled with the lack of occupation—has certainly enfeebled the powers of the best generation of architects in Italy, although there are, of course, some honorable exceptions to such a reproach.

Among them I would place conspicuously the Cavaliere Niccolò Mattia, of Caserta, who, in the eye of connoisseurs, is a man who most, for every day, honor to his country. I allude to the restoration of the façade of the Church of Santa Croce, which is being conducted upon a scale of nobleness worthy in every respect of the building in which are deposited "ashes" which, as Byron says, "shall be the monument of the monument." The restoration of the church, of enormous extent, is carried out in different-colored marbles, wrought with an exactitude worthy of the celebrated masonry of the shrine of Oragna, in the Or San Michele, so highly praised by Vasari. The sculpture is being executed by the most distinguished sculptors of Florence, and the execution, which, in the hands of the artist, is being carried out in the present time by designers, artists, and workmen in any of the capitals of Europe.

Scarcely less praise should be awarded to the authors of the noble restoration now making of the Bargello at Florence, the old palace of the Podestà.

## THE LENDAL BRIDGE, YORK.

ON Friday week the Lendal-bridge Committee met Mr. Page at the Guildhall, to take into consideration the tenders for the new bridge to be erected across the Ouse at Lendal. The following sent in tenders, and the estimates approximated to the amounts stated:—

J. Whitelaw, Donformline	£6,062
J. Carrick, Fimbo	5,713
Cliffe, Bradford	6,023
Hartley and Co., Derby	5,713
Russell & Co., London	5,744
Hawks, Cravallan, and Co., Gateshead	5,226
Calver and Co., York	5,713
Hend. Ashby, and Co., Stockton-on-Tees	5,179
The Brynno Iron Company, Wrexham	2,585

The Committee decided to accept the tender of Messrs. Hawks, Cravallan, and Co., of Gateshead. Including some extra work, which will require a particular description of iron to be employed in some places to strengthen the bridge, the contract of £5,436 will be increased to £12,611. This amount, however, will not cover the entire cost of the ironwork, inasmuch as the cross girders and the corrugated plates belonging to the foot and carriage way of the fallen bridge will have to be re-erected in the new structure at a cost of £210,000, per foot. By the tender of Messrs. Hawks, Cravallan, and Co., to complete the work within six months. Workmen are now engaged in re-erecting the fallen girders of the bridge, and their labors will be completed in a few days. The resident engineer, as he arrived in York, to superintend the erection of the new structure, and operations will be commenced almost immediately.

**Chesterfield National Schools.**—These schools, thoroughly restored internally and rebuilt adjoining the street, comprise the old school-rooms, 47 feet long by 27 feet wide, with new class-rooms, 30 feet by 14 feet, to each school. The new buildings are of a substantial character, built of the best pressed bricks, interlined with black and white brick bandings and stone dressings. The style adopted by the architect is of early domestic character. All the timbers in the roofs and ceilings are exposed, being stained and painted. The floors are of the best stone, fitted with desk and seats of the pattern recommended by the Committee of Council on Education. Care has been taken to render the warming and ventilating of the schools complete. The boys and girls have each a separate playground, with slides and conveniences. The schools have been erected by the design and under the superintendence of Mr. S. R. Ballin, architect, by Mr. Joseph Watts, builder, for the sum of £300, and without any extra.

\* To be continued.



# ON THE SANITARY CONDITION OF THE DWELLINGS OF THE OPERATIVE CLASSES IN EDINBURGH.\*

FIVE-AND-THIRTY human beings, living, moving, working among us, lie down at night under the shelter of their own roof, and in the security of their own beds—their eyes closed in sleep, a sleep which, to many of them, will know no waking till the sun comes up to greet the morning with its genial and life-giving rays. The fact is awful and appalling. The tall, skeleton-looking walls still standing in grim desolation, displaying, as if in mockery, trifling articles of household gear saved from the universal destruction; the torch-light searching for the dead and dying, the covered doors, conveying the dead to the resting place, and the hurried and excited attendants of such an event, all lend a dramatic interest to it, and throw gloom and horror over the neighbourhood. Such startling incidents are surely designed by Providence to arouse and warn us; and at this moment they seem, to a certain extent, to have done so. Many are now actual sufferers, and the general temporal well-being of their poorer brethren who lately bestowed not a thought upon them. I would not detract from the solemnity of that event, or say ought to lessen the impression which it has made, but I cannot help observing what a small proportion the number of those who thus miserably succumb bears to those who, unnumbered and unknown, are daily and hourly sacrificed to a violation of the laws of life, as palpable and as monstrous as was the violation of those laws of mechanics which caused that building to give way. It is not enough that architects should concern itself with the outward beauty or the inward strength of the structures which it designs; intended, as they are, to shelter man from the inclemency of the weather, they should not be constructed so as to expose him to the attacks of more dangerous foes, and as you have already been so ably addressed in this place by Mr. Cowan on the first branch of the question, I purpose to restrict myself to the very much less, and yet more important, subject of how to uplift the dwellings inhabited by many of our artisans are for their purpose, the fearful consequences which their faulty structures involve, and, lastly, to consider whether any fitting remedy can be applied to the existing very faulty state of matters. The first question, however, regarding the temporal well-being, or the science of life, is to the following effect:—"For the maintenance of the life of man three chemical conditions must be complied with—he must be furnished with air, water, and food." The philosophical explanation of this necessity is not difficult. No part of a living mechanism can act without receiving nutriment, and the continuance of its functions there is, therefore, an absolute necessity for repair; in proportion, then, as these wants are supplied will be the strength and health of the individual, and, therefore, of that aggregate of individuals which we term the community. As civilisation increases, efforts are made to improve the lot of the individual, for the sake of the good which they bring to the race in rapacity and cruelty of foes, and in modern times, on account of the value of the land on which they stand, the inhabitants are more or less closely crowded together, and an artificial state not very conducive to health is induced. The middle savage nations at large, and even the home nations, are more free and far from the side of some fresh and pure fountains; but though cities have their advantages, their erection certainly compels us to abandon some which were possessed in the savage state. Take the conditions of life I have mentioned in the first and first of them. When we are crowded together, and the air is impure, the water is brackish, we are struck with the wondrous provisions made for establishing its due proportions and preserving its purity, proportions which cannot fail to be interfered with, and purity which must be sullied by the vapors and gases which human beings, crowded together, unavoidably generate. It is not the case, however, that the air is so pure, and the water so pure, and the food so pure, and the drink is rendered brackish again by the adult, to the amount of a ton and a half annually, in other, and in what we might call viler, forms, after having subserved their purposes in the economy. The average amount, as estimated by experiments of Broun, escaping by pulmonary and cutaneous exhalation alone is upwards of two pounds a day. Thus, from the decay of animal and vegetable matters, from the very presence of living animals, from the combustion necessary for the warming of our dwellings, the preparation of our food, and for the carrying on the numerous manufactures which the necessities or the luxuries of man have created, various chemical compounds are produced, many, or should I not say most, of which, being volatile or gaseous, ascend and mingle with the atmosphere, rendering it less fit for respiration. We have no chemical test delicate enough to detect the presence of many of these, and the latest analysis, made by the chemists of their work, and poison the system that inhales them. And along with air may be elated the etherial light, deprived of which plants and animals alike languish; for it is scarcely possible to imagine a supply of pure air without at the same time a supply of good light. In secure these, and, moreover, the human body is rendered more susceptible which are so largely the source of contamination of the air, the supply of free and pure air by ventilation; the lessening and abating of all that is noxious in our various manufactures; and, lastly, a sufficient supply of good food. This last, however, is a subject upon which I have no opportunity of being. Returning to our first proposition, we find that three chemical conditions are essential for life—air, water, food—and that the whole science of sanitary economy is occupied in deciding how these are to be supplied, most speedily, most abundantly, and most cheaply. It is not, therefore, a very important, and yet a very important, subject for such considerations as we are now discussing, to us that, precisely to the extent to which we violate these necessities of our existence, to the same extent will the natural consequences of sickness and death follow. Thus Dr. Murchison, in his discourse upon the causes of continued fever, states as the legitimate induction from various "cases of continued fever, the two following propositions among many others:—"Overcrowding, with deficient ventilation, and destitution, appear to be the essential causes of typhus and relapsing fever, and to be capable of generating them *de novo*; while there is no evidence that they have any organic influence over typhus fever."—"The air is always charged with the miasmata in the belief that the emanations from decaying organic matter, or organic impurities in drinking water, or both of these causes combined, are capable of generating typhoid fever." Again, in the Report of the Royal Commission appointed to inquire into the sanitary condition of the metropolis, and in the 1859, the relation between overcrowding and tubercular disease is clearly shown, and when we bear in mind how many diseases the tubercular diathesis comprehends, and the low state of vitality and therefore incapacity of resisting or recovering from the attack of any disease which it involves, we can form some

idea of the wide-spread misery which it engenders. It is an old maxim, that when the cause is taken away, the effect ceases. If, then, so many of our artisans are from the cause dependent on the cause, and if the cause is taken away, the effect ceases, then, taken away, causing death to them in some cases and a protracted recovery in others, it follows necessarily that, if these defective arrangements were remedied, disease, suffering, or death, would be mitigated and, in some cases, entirely prevented. In Edinburgh almost all the diseases which are so largely the source of contamination of the air, the supply of free and pure air by ventilation; the lessening and abating of all that is noxious in our various manufactures; and, lastly, a sufficient supply of good food. This last, however, is a subject upon which I have no opportunity of being. Returning to our first proposition, we find that three chemical conditions are essential for life—air, water, food—and that the whole science of sanitary economy is occupied in deciding how these are to be supplied, most speedily, most abundantly, and most cheaply. It is not, therefore, a very important, and yet a very important, subject for such considerations as we are now discussing, to us that, precisely to the extent to which we violate these necessities of our existence, to the same extent will the natural consequences of sickness and death follow. Thus Dr. Murchison, in his discourse upon the causes of continued fever, states as the legitimate induction from various "cases of continued fever, the two following propositions among many others:—"Overcrowding, with deficient ventilation, and destitution, appear to be the essential causes of typhus and relapsing fever, and to be capable of generating them *de novo*; while there is no evidence that they have any organic influence over typhus fever."—"The air is always charged with the miasmata in the belief that the emanations from decaying organic matter, or organic impurities in drinking water, or both of these causes combined, are capable of generating typhoid fever." Again, in the Report of the Royal Commission appointed to inquire into the sanitary condition of the metropolis, and in the 1859, the relation between overcrowding and tubercular disease is clearly shown, and when we bear in mind how many diseases the tubercular diathesis comprehends, and the low state of vitality and therefore incapacity of resisting or recovering from the attack of any disease which it involves, we can form some

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\* From a Paper read before the Architectural Institute of Scotland, by Dr. ALEXANDER WOOD.

\* To be continued.

MEMORIAL TO THE LATE MR. BRAIDWOOD.—A tribute to the memory of the late Mr. Braidwood has been raised by the members of the M. or Southwark division of police. It is of Portland stone, and designed and executed by Mr. S. H. Gardner, of the New Kent-road. It is intended to be placed against a wall, and supported by iron brackets. It is a position as to mark the spot where Mr. Braidwood fell beneath the ruin.

ROYAL INSTITUTE OF BRITISH ARCHITECTS

**A**n Ordinary General meeting of this body was held on Monday evening, at their Rooms, Conduit-street; Mr. M. DICKY WYATT, V.P., in the chair, in the absence of the President, Mr. Tite, M.P., who was prevented from attending by a severe cold.

Mr. T. HAYTER LEWIS, hon. sec., having read the minutes of the last meeting, which were confirmed, drew attention to some specimens of zinc sent for inspection by Mr. James Edmonston, and which that gentleman believed to be hitherto unequalled in England.



## CHURCH, CHAPEL, AND SCHOOL BUILDING.

**Leith (N.B.).—New Episcopal Church.**—The foundation stone of the new church for St. James's Episcopal congregation, Leith, has been laid by the Right Hon. W. E. Gladstone, Chancellor of the Exchequer, for the sum of £2,000 and £6,000. The designs, which include a church seated for fully six hundred persons, and a parsonage, are by Mr. Gilbert Scott. The church consists of a nave of five bays, with north and south aisles extending from the east gable westward two bays, a chancel with semicircular apse, and a tower and spire. The nave and aisles are seated for the congregation; the chancel is seated with stalls for the choir; and the apse is occupied by the altar and reredos, and a screen for the clergy. The ground floor of the tower is the vestry, which has a private entrance. The upper part of the tower is a bell-tower, surmounted by an octagonal spire placed with slender flights protected by projecting gables carried on shafts. The whole of the church is covered in with an open timber roof; that of the nave is boarded on the under side of the braces and ties to a longitudinal form of truss, the tower and spire being of a similar arch. There are two entrances—one in the west gable, the other in the south transept. The west door is surmounted by three two-light windows, the heads filled with plate tracery; in the apex of the gable is a vesian window. The windows of nave and aisles have three lights and in the apse and chancel are single-light pointed windows, the jambs and arches moulded. It is intended that the windows in the west gable will be filled with stained glass, by Messrs. Clayton and Bell. The extreme length of the church inside is 125 feet; the breadth of nave 37 feet 6 inches; of aisles 14 feet. The height of the tower and spire, 180 feet. The style adopted is that of the thirteenth century. Messrs. Brown of Edinburgh, and the contractors for the mason-work, Mr. Swann, of the Edinburgh Saw-Mills, has the carpenter-work.

**Edinburgh.—St. Mary's Church.**—This structure has just been opened for service. The edifice was begun in 1845, by T. Gordon, the architect. In style it is what may be termed mixed. Perpendicular of the time of Henry VII. The principal entrance, over which is a tall tower and spire, is in Albany-street. The exterior exhibits some fine work, with here and there a sharp an excessive detail, especially in the spire, which loses somewhat of its artistic character when viewed from a distance. The interior is decorated for nearly 1,000 persons.

**Ely Cathedral.**—The Very Rev. Dr. Harvey Goodwin, Dean of Ely, has printed, for circulation among his friends, a brief account of the state of the restorations going on in his cathedral for the last three years. The painting of the ceiling of the nave, which was begun five years ago, by Mr. S. L'Estrange, is now half finished. The scaffolding has been removed, and the "Creation," the "Fall," the "Sacrifice of Noah," the "Sacrifice of Abraham," "Jacob's Ladder," and the "Marriage of Ruth," are now being painted. The work will be resumed in the spring. To secure these valuable paintings from injury the roof has been reroofed. Six stained glass windows and 17 carved panels for the choir stalls have been contributed by private persons. A monument in the form of an altar-tomb, of alabaster and marble, has been erected at the back of the reredos by the Rev. Dr. Mill, and is placed in a prominent position on the top. A complete system of lightning conductors protects the building. On the north side the dean and chapter are erecting a new building for the accommodation of the chorists' school. The amount already subscribed for the restoration of the lantern has reached £3,070, including £1,000 from the Dean and Chapter.

**Hitching, Derbyshire.**—The foundation-stone of the new parish church was laid on the 1st instant. At the ceremony a leaden case containing several local papers and notes of the history of the church was deposited in the north-east corner of the tower. The proposed church will accommodate 600 persons, and will consist of nave, north and south aisles, chancel, organ chamber and vestry, with entrance lobby in tower at the west end of south aisle. The tower is to be surmounted with a broach spire about 100 feet in high. It will be built of stone obtained in the neighbourhood, faced with Wingerworth stone in six courses, the color of the latter being of a green tint; the dressings will be of a white stone. The style adopted is Grotesque Gothic. The works are being carried out by Mr. J. W. Thompson, builder, Derby. The design was selected in competition by Messrs. Giles and Brookhouse, of Derby, architects.

## CHAPELS.

**Chapel for the North Wales Llanulfa Asylum.**—This chapel is just completed. Rather than have architects were invited and in designs the one selected, and erected, is of the fourteenth-century Gothic, octagonal on plan, with two projections from the east and west sides; the former for chancel, the latter for porch-vestry, and the staircase, which leads to a small gallery over the porch. The different orders of the arches are used for the purpose of decoration. The roof is supported by eight curved timber ribs springing from moulded corbels in each of the angles, and meeting in the centre, from which hangs a pendant; above, and crowning the composition, is an octagonal bell-cot, with spiral roof and iron finial cross. The whole of the timber-work is carved, stained, and varnished. The architect's estimate was £230, for the chapel and the organ case, which has been entirely completed. The contractors were Messrs. Lloyd and Roberts, Holywell. Flint. Sir Watkyn Williams Wynne gave £20 for a painted glass window in the chancel. The artist employed was Ballantine, of Edinburgh.

**Stretney Chapel, Bristol.**—The new chapel for the parishes of Lyncombe, Widcombe, and St. James has just been consecrated. It is situated on the Bristol-road. There is an entrance lodge at the gates; the two chapels in the centre of the ground are precisely similar externally, and are connected by a cloister, forming a distinct and separate enclosure, between which is an arch supporting the bell-turret common to each building. The belfry is surmounted by a spire, rising to about 100 feet, crowned at its apex by a cross. Each chapel is built in the form of a cross. The unconsecrated chapel is fitted with a tribune at the extreme end of the minister, with fittings on either side, with a robing-room, an organ transept, and special seats for the choir on the other, both being raised off from the chapel by carved screens. The consecrated chapel, of the same plan, is divided into a chancel and nave; the east end, or apse, is paved with encaustic tiles. At the extreme end is a plain communion table, and on the north and south sides are lecterns for the clergy. The remainder of the building is arranged as the other chapel. The style of the edifice is that of the reign of Edward III. Mr. C. E. Davis is the architect, and Mr. D. Aust, the builder. The carving of the stonework has been executed by Mr. G. Porter, of Bristol.

## SCHOOLS.

**Liverpool.—Kirkdale Schools.**—The new industrial schools and free school-rooms for the district of Kirkdale, which have recently been erected, were opened last week. It is intended that the new buildings shall not only be used as an industrial rugged school, where children of the very lowest class of the population shall receive the usual elementary instruction, but where boys shall also be taught the rudiments of some useful occupation for their after life. The system of study taught in the day school is that of the common school building; but it is also intended that on Sundays it shall be used as a free school-rooms church, where there will be divine service and free accommodation for a large number of the adult working population of the neighbourhood. The building consists of a large hall, 200 paces in length, and 40 paces in breadth. The interior is of plain brick and stone. The basement floor is planned as a cooking kitchen, which can be used for a soup kitchen during the winter months, and has a separate entrance from Major-street. Adjoining this kitchen is a flagged space, intended for a play-ground during wet weather, or for workshops when required. The main entrance to the ground floor is from Major-street, to a schoolroom 80 feet long, 25 feet 6 inches wide, and 18 feet wide, intended also to be used as a free school for the poor of the district. From this room there are a class-room, large workshop, and a store-room, covered lavatories, &c., and a large play-yard. The upper floor, which corresponds with the ground floor, and which has also a separate entrance from Major-street, is intended for a girls' schoolroom, classroom, printing shop, and large workshop. The buildings and yard walls occupy an area of about 1,300 square yards, and the entire cost has been £25,000.

**Dorset.—Puddlinghew New School.**—The ceremony of opening this school took place on New Year's day. The old school house was a dilapidated old tenement, but now a group of buildings has been raised close to the church, consisting of a schoolroom 33 feet by 17 feet, lofty and well ventilated, and a convenient residence for the teacher, with parlor, kitchen, scullery, pantry, and three bedrooms, surrounded by a garden, and affording a large and airy and plenty of space for a playground and garden. The designs were by Mr. J. Hicks, of Dorchester; the work has been executed by Mr. Wellspring, of the same place, the walls being built of flints with brick bands and quoins, the total cost was about £2,000.

**The Nonconformists in Lancashire.**—At a meeting of the Lancashire Nonconformists, it was announced that it had been arranged that thirty additional chapels should be erected within the county to celebrate the bi-centenary of the passing of the Act of Uniformity, on the 24th of August, 1602. It was also stated that Mr. H. H. the chairman, had agreed to give £20,000 towards the project. Other sums, in the course of the evening, were announced, amounting altogether to £11,150.

**St. Giles, Northampton.**—On New Year's day the new schools which have been erected for this parish were publicly opened. The buildings form a group, consisting of a school for girls' school, infant school, and three class-rooms. The boys' school and infant school are built in the form of the letter T, with one side of the boys' school and one end of the infant school facing the church. The girls' school is at the back of the boys' school, and at right angles to it, with the front facing the south. Each school has a large play-yard and out offices, having each a separate entrance, each with a clock tower, of a Gothic character, and have bath stone dressings. The tower is surmounted by a wooden bell turret. The roofs are high pitched, the timber work being stained and varnished. The principals have curved ribs, resting on stone corbels. Provision is made for ventilation by a series of square openings in the roof, and outer walls under the floor with ventilating plates in the doors, and a series of triangular windows in the roof. On the front of the tower adjoining the infant school, over the entrance door, is a stone tablet, with a relief of the Good Shepherd, with a figure of the Saviour in alto-relievo, in the character of the Good Shepherd, supported by an ornamental corbel, with carved foliage. Around the figure are three scrolls, bearing inscriptions. Around these scrolls and the figure, and within the outside border, are cusp, formed in encaustic tile-work, executed by Minton. At the end of the boys' school, over the apparatus closet, is an organ gallery. Mr. E. F. Law is the architect, and Mr. Gosford the builder. The total cost has been £2,018, exclusive of the site and architect's commission.


**Salen Chapel, Bowring, near Bradford.**—A new chapel and schools have been lately erected at Bowring, near Bradford, for the New Connexion Methodist congregation, designed by Mr. J. W. Porden, architect, of Bradford. The chapel is 65 feet long, including the semicircular recess for the organ and singers' gallery, behind the minister's platform, 43 feet wide, and 23 feet high from floor to ceiling, and will accommodate 400 persons on the ground floor, there being a gallery for school children at the back of the choir. The roof is 14 feet high to the ceiling line. Suitable vestries and class-rooms are provided. The building is in the Italian style. The central gable of the west front projects 3 feet from the main building line, and is surmounted with a belfry. The entrance porch, 13 feet 6 inches by 6 feet 6 inches, to the chapel projects from the south end, and faces an entrance street. Placed in this situation it is well exposed to the warmth and comfort of the chapel, the situation being elevated and much exposed to the west winds. The ceiling of the chapel is paneled in plaster, a paneled cone running round the chapel springs from a console cornice and joins the flat roof of the porch. The interior is finished with a fine Italian marble, with hot air by a very simple, cheap, and effective method. The contractors are Mr. Thomas Peel, mason, Mr. Charles Neal, joiner, Mr. Schofield, plumber, Mr. John Holton, plasterer, Mr. James Smithies, slater, Mr. Ellis, painter, and Mr. William Rhodes, smith.

**W. PORDEN.**—The works of this architect were the subject of some inquiry in our sixth number. We add a note supplied by a writer in the *Athenaeum*, who says:—"When I made Mr. Porden's acquaintance, fifty years ago, he was living in intimate association with Flaxman, Phillips and Bone, Royal Academicians; was Miller, the well-known professor of Mr. Murray, and with the day of D'Orcy, and if not a great architect, was at least a very good one. He has been employed by the late Earl Grosvenor extensively, and by the Prince of Wales, for whom he built the dome, stables, and riding-house at Brighton—a pile (even in its present state) of a very superior character to the laudable edifice into which the Pavilion itself was afterwards transformed by other hands."





## HISTORIES IN STONES.



R. SCOTT'S admirable lecture at the Institute—admirable in style and matter—comes most appositely when the public mind is gradually awakening to the importance of preserving architectural monuments, on the score of their being "Books of History," enduring records of the different phases of civilisation, and faithful illustrations of the progress of the art and science of construction. Years ago the late Mr. Hudson Turner, as he stated in the preface to his "Account of Domestic Architecture in England," was led to believe "that our national records might be made available to illustrate the history of architecture in England. Strongly impressed with this opinion he began, sixteen (alas! now twenty-seven) years ago, to note down every fact bearing on the subject which offered in the course of daily reference to those records for professional objects. What Mr. Scott proposes is the converse, and he sets before us the value "of the monuments and remains by which our history and civilisation are illustrated." The history of peoples cannot be compiled from written records alone, not only because those of early periods do not exist, but because there were an infidelity of illustrations which escaped the observation of annalists, or which are thought too common-places to be noted down.

Take, for instance, the invention of chimneys. It is certainly a marking point in the history of civilisation, and an indication of progress in the craft and well being of the community. Yet are we ignorant of the name of the inventor, and, indeed, of the century, in which his contrivance was first given to the world. It did not come into general use until the fifteenth century, although Muratori states, in his *Antiquitates Italice sive ævi*, written in the first half of the last century, that in about the middle of the fourteenth century (1368) Prince Fulius took chimneys to the builders with him to Rome to build on the hotel he put up at, because the inhabitants of the Eternal City did not use chimneys, or, according to Muratori, had forgotten their use during the intellectual eclipse which followed the irruption of the Goths. But architectural research has discovered undeniable evidence of the existence of chimneys in English structures, dating no far back as the twelfth century, although Leland speaks of the chimneys at Bolton Castle as a novelty: "One thing I much noted in the hall of Bolton, how chimneys were conveyed by tunnels may in the sides of the walls, betwixt the lights in the hall; and by this means and by no covers, is the smoke of the hearth in the hall wound strangely conveyed."

Bamburgh Castle, which, together with Coningsburgh Castle, as thought by Sir Walter Scott and Mr. King to be of Saxon architecture, exhibits a different habit of life from what existed at Bolton. It is not, however, of Saxon, but of Norman architecture, and was built in the twelfth century. The stones employed in building the Keep are unusually small, and the mortar with which they were cemented together contains small pieces of shell and charcoal, authorising the conclusion that the limo employed was obtained by calcining white shells, obtained from the seashore. The walls on one side—the front—are 11 feet thick, and on the other three sides 9 feet thick. They appear to have been built by means of scaffolding up to the first stay, to where the fillings in the inside are mixed with whinstone, obtained from leveling the rock beneath, for the foundations of the building stand upon a filigree up there are no fillings in of whinstone, leaving us to infer that the walls were continued without the aid of scaffolding. The roof originally rested on the second story, but was afterwards raised. No traces of flues are visible; but in what is supposed to have been the guard-room, the stones in the centre of the floor are burned red, indicating the locality of the fireplace. Near the top there was an opening, 4 feet square, for the smoke to escape. In all the other rooms the windows were mere loopholes, 5 inches wide, except in the gables of the roof, where the windows in each were a foot wide. The outworks are built of a different material—coarse sandstone—and in all the principal rooms there are huge chimneys, particularly in the kitchen. Thus it is not only does the keep of Bamburgh differ from that of Bolton, but it also differs from the outbuilding. Mr. Stokely, in his "Itinerary Curiosum," describes all that remained entire of Glastonbury Abbey—the kitchen—as "a judicious piece of architecture." Formed from an octagon, included in a square; four fireplaces fill the four angles, having chimneys over them in the flat part of the roof; between these rises the arch of a pyramid, crowning the structure with a lantern, one within another; there are eight circular ribs within, which support the vault, and eight funnels for letting out the steam through the windows."

The remains of ancient constructions are, in some cases, all that we have to indicate positively the existence of races now extinct, or absorbed by the successive waves of population that flowed over the land they inhabited. A few stones rudely built up are the sole indications we possess of the peoples who inhabited Greece before the Pelægic era, and in the various remains of what is called Cyclopean architecture scattered over Asia

is the only evidence left of their being a mighty race of builders whom we call a *tori* et *travers* Phœnicians. No one can have stood in the presence of Baalbec, and surveyed the platform of huge stones on which the ruined temples were built, without feeling convinced that we have lost the history of one of the greatest epochs of a civilisation, and instruction, for we can we but feel struck by the difference between the habits of thought and standards of excellence exhibited by the works of the builders of the Cyclopean masonry of Baalbec and of the pebble walls at Bamburgh. Who were the builders of these Cyclopean structures? Who were the men that quarried stones 70 feet long, 14 feet on each side, weighing 1,500 tons, and built them up in a platform rising 30 feet above the level of the ground? They are unknown; the century in which they existed is a mystery; even their name and race have passed from the memory of the world, and all that we can do is to presume, from the levels of the stones, that the builders were of the Phœnician family, and that the "City of Baal" was built during the many days of Phœnician history; but almost any other presumption would be entitled to just as much credit. The buried cities of Mexico reveal the existence of a people who had passed away long before the traditions of the victims of Spanish enterprise commenced. Seeing these things, we may safely conclude that the preservation of ancient structures is of high historical importance, and is a duty incumbent upon us, not only for our own instruction, but for those who may come after us. For it is not unreasonable to suppose that as, from a few faint indications, Champollion was enabled to form into a regular language what appeared to be quaint barbaric ornaments, and Owen to construct the anatomy of a bird from its thigh-bone, so hereafter some one may arise who, from the hiderto neglected remains of our structures, will be enabled to trace the habits of pre-historic peoples, and trace the influence on our civilisation of races of whom we know nothing.

To preserve what has escaped the neglect, rapacity, and restoring processes of our predecessors, and the destructive influences of our climate, Mr. Scott suggested the appointment of vigilance committees in the several districts of the kingdom to watch over our architectural ruins, to obtain means for their maintenance, and to prevent their destruction by demolition, or by no less ruthless restorations. Mr. Goldwin suggested that the time had arrived when Government ought to appoint a commission for a general examination of ancient buildings, or to appoint reports as to the custody and condition of architectural remains. According to the plan proposed by the last named gentleman in a recent Government of having "behaved most infamously in regard to art, science, and antiquities," we admit that the time has come when the preservation of our historical structures should be seriously undertaken. We have no faith in Government initiation, because here Government is not permanent; and, in the direction of preservation, the Government works, change with the most rapidity. Government initiation would, by an easy process, glide into the creation of Government situations, and into the development of bureaucracy, of both of which we have more than enough already. In France the Commission for the Conservation of Historical Monuments has been the means of their destruction, and Government protection has destroyed more than did its friends. On almost the same occasion, M. de Tocqueville speaking in public, he called attention to the degradation and destruction of the Abbey of Mount St. Michel, which is in the custody of the Home Ministry. Consequently, we much prefer the course suggested by Mr. Scott, and believe that the Institute of British Architects could, if it chose, without waiting for Government initiation or Government commissions, effect the preservation of architectural remains and historical monuments by affiliating to itself the various architectural, archaeological, and antiquarian societies existing throughout the country. A great deal would be done if the Institute were to invite these societies to report on the present condition of architectural remains, accompanied by suggestions for their preservation, and if it were to publish these communications, in a condensed form, at the end of each session. The expense would be trifling, and the publicity thus procured would prevent the perpetration of many an act of Vandalism and neglect.

Starting from no further back than the beginning of the present century, the works of architectural, historical, and archaeological interest that have been swept away or irreparably mutilated form a sadly melancholy catalogue. There are some utilitarians we are aware who insist that works which have nothing to distinguish them from their historical associations are not worth preserving, for they only encumber the ground. These practical gentlemen would break down Stonehenge to mend the roads. But they should remember that history cannot be brought within the knowledge of many except by association with things visible to the eye, and the structures with which representative men are associated are just as much monuments to their memory as statues, or obelisks, or columns, or hospitals, or educational institutions, or museums, or reformatories. We take more interest in Shakespeare's house at Stratford than in his statue at Drury-lane, although the house has no intrinsic merits, and the statue is a waste of art. In the Eagle tower of Bamburgh Castle was born the first English Prince of Wales, nearly 600 years ago—an event of note in our history. Pennant described the Castle to be, towards the conclusion of the last century, exactly the same as it was in the thirteenth century with respect to the exterior, including the statue of the founder—the First Edward—now in hand, over the entrance, and the statue of the king, with one of the most popular of English traditions—the fate of Fair Rosamond. In the chapel used to be exhibited her coffin and the panning inscription over her tomb.

"His face in timbers, Rose must, not Rose mounds,  
Now redoubt, not old castle, not old castle mounds,  
and the remains of curious paintings.

Pontefract Castle, which forty years ago was "a mass almost unintelligible," with "several round towers attached together, which conjecture presumes to have been the keep." was the scene of some of the most tragical events in our annals that have been immortalized by the genius of the poet for all time. The very name calls up the bloody shadows of Thomas of Lancaster, Richard II., Salisbury, Rivers, and Glouc. In the tower of Bolton Castle Mary Stuart was confined. Forty years ago or so its tenant was a farmer. The stores of Jorvaul Abbey were used to build fences and mend roads, and stone coffins were dug up to be turned into swine-troughs. When the present century was in its teens, a person in the neighbourhood of Mablethorpe remembered to have seen the high-ways strewn with fragments of inscriptions, and yet this edifice it was written at the dissolution of the monasteries—"The lead from Jorvaul Abbey amounts to 399 fadders; the fairest church there (in Yorkshire) that may be seen."

Kenilworth, just before Scott's genius made it a place of pilgrimage, was a mass of bare walls waiting to decay, and the habitable place was a portion of the gateway—under which Elizabeth and her paladins and statesmen passed—wherein a farm labourer's family dwelt, and cooked their food beneath an alabaster chimney-piece decorated and carved with Leicester's initials. Denney Abbey, where the foundress of Penbroke Hall was buried, was converted into a farm-house, and the refectory into a barn, though in her will she enjoined the Fellows of Cambridge "to visit the nuns of Denney, and give them ghosly counsel on just occasions." Donnington Castle, of which there remained the gate-house, with its two round towers, was the home of Chaucer, the father of English poetry. Lupus Hall, 90 feet by 45 feet, and the Chancery Court in the country, Chancery Castle, were destroyed sixty years ago to make room for the countess's new residence, the twelfth century, and with the materials, of the Abbey wherein Henry VI. married Margaret d'Anjou, was the place of concealment of Charles I. after his flight from Hampton Court; but the greater part of the structure "has either fallen or been taken down." And of all these, with others too numerous to mention, which many of us have seen, this volume remains to recall to mind the history of our fathers, or to indicate the progress of our race?

#### THE ARCHITECTURAL MUSEUM.

THE annual exhibition of works submitted for prizes to the Council of the Architectural Museum is now open in the Gallery at South Kensington. There are specimens of iron-work, stone, and wood carving, colored decoration, painted glass, and tile pavements, all more or less creditable to their respective artists. We are, knowing the intelligence of our best workmen, by no means surprised at the talent displayed by them, but we were pleased to find so few examples of wasted industry. With the exception of one or two drawings by Mr. McColla's pavement competition, there are none which do not bear evidence of knowledge and study. Several in this latter series are worthy of the highest praise. They are not inferior to those which the enterprise of our manufacturers have hitherto drawn from our best designers.

The several subjects sent in for a representation in a carved stone panel, 2 feet square, of "Queen Eleanor watching over Edward I. when wounded," are, perhaps, taken together, the least successful, but we must remember that it was the most difficult task, and we can scarcely expect even "artist workmen" to possess the knowledge of professional sculptors—one only, out of the seven designs, shows the craftsman to have been equal to his work, and we should wonder much if "Vitruvius," when the envelope is broken which contains his name, turns out to be a "workman" in the ordinary meaning of the term. Although the prizes are not yet awarded in this class, there can be no doubt about the result, and need, consequently, be no hesitation about anticipating the verdict of the judges. The composition of the group, the simple lines of the drapery, and the feeling of the sentiment, being a well-trained and well-handled. The selection of the second best work will be a more difficult matter, on account of the merits of the other works being so evenly balanced.

The subject of a "carved and moulded stone capital," seemingly, was more suitable to the class to which the invitation was addressed. Eleven designs are exhibited, all excellent, both in execution and design, and almost equally deserving distinction.

The same remarks apply with justice also to the wood-carving, but there is here a greater diversity in style. In some cases it is polished as smoothly as glass, and wrought with the excessive delicacy which distinguishes French work; in others it is vigorously cut, yet still richer in appearance than the more elaborately defined panels, and the talent of the workman is seen, perhaps, as much in what he has forborne to do as in what he has executed. One or two competitors, disdaining the permission to use lime or other soft wood, and regardless of the extra labor involved, have carved their designs in English oak.

The prizes for modelling in clay do not appear to have elicited a single competitor. We wonder, therefore, that the subject given by the Council, by no means a difficult one, was as it was out of the ordinary line of business of many workmen in London. Neither did we see any copies of the hammered iron scroll-work of St. Paul's Cathedral, although prizes to the amount of sixteen guineas were offered for it.

The invitation to smiths for a wrought-iron door-handle has, however, attracted three competitors. The production of two of them are good, both in design and execution, one exceedingly so. The third, representing a vine branch, is splendidly executed, but it is more a copy from nature than a design. Another specimen of hammered iron, by the same

workman, causes us to wonder why he did not compete for the copy of St. Paul's scroll-work. In that class his skill would have met with deserved reward.

The six examples of stained glass are not first-rate works, but the duldest-looking one, as they are now placed, is, when carefully examined, perhaps the best.

The Ecclesiological Society's prize of five guineas for the competitor who shall most successfully color a cast of one of the Angelic choir in the north transept of Westminster Abbey, has attracted no less than twenty-two specimens of varied excellence. The judges in this class have given their award the first prize to Mr. Wood, of Brown-street, Bryanston-square; of the second prize to Mr. Harrison, of Easton-square; and of the third to Mr. Lea, of Lutterworth. There can be no doubt of the justice of the selection. The panels have been colored in a masterly way; but, without derogating from the merit of the successful men, we cannot but think that the plain cast, stained only to represent the original, which is hung among the submitted decorations, it is, preferable to any and all of them. The one looks a noble material; all the rest appear like plaster hidden by color, on account of their natural unworkliness and unfitness to be shown without it. In no single example, by the way, is the plaster stained to the natural appearance of the stone, and then simply picked out with color, and this, we believe, is the only manner in which the appearance of the simple stone could be improved by its application. Still, as decoration, the prize designs are excellent to the style of the surface ornament, as well as in the harmonious arrangement of the color.

Several pieces of work are exhibited in competition for extra prizes offered by the Society for "actual work." As this invitation is open to all workmen in stone, wood, metal, glass, and color, of almost every description, and as it needed not express preparation, we expected a larger contribution than three or four examples. A piece of punched brass-work, bearing in relief the "City arms," admirably arranged, deserves notice; and there are some good bronzed castings for a table and umbrella stand.

Mr. McColla's offer of two five-guinea prizes for tile pavements has brought no less than twenty-eight competitors into the field; we have already mentioned their general excellence, which is so great as to render the award of the premiums a matter of great difficulty. We have not space to particularise all those which really deserve mention, and as the prizes are about to be awarded, we forbear to do so, except by mentioning any, but we would urge our readers to visit the Museum, and themselves recognise the ability which the Council of the Architectural Museum has evoked.

#### THE PROPOSED ROAD FROM KENSINGTON TO BAYSWATER.

WE understand that a decision has been come to as to this road. The Chief Commissioner of Public Works has finally decided upon the plan for a sunk road through Kensington-gardens. The road will commence in the Haymarket-road, and run across Kensington-gardens west of the Serpentine, and parallel with the new broad walk, emerging on Kensington-gore, opposite the new north entrance to the Horticultural Gardens, and therefore close upon the Exhibition itself. Its length is to be just three-quarters of a mile, and it is carried across at a uniform level of 12 feet below the surface. It passes beneath the carriage drive and Rotten-row by means of two short tunnels. The total width of the roadway is to be 40 feet, of which about eight will be devoted to a footway on one side. Both sides of the cutting will be formed of sloping banks of turf, and none of the grown timber will be interfered with. The cost of the road is estimated at £28,000, the Commissioners of Public Works undertaking to pave and light it. The tolls are to be the same as at Kensington-gate—3d. for one horse, 6d. for two, and a halfpenny for each foot passenger along the pathway. The road will be open day and night. Every holder of a £100 debenture will receive an ivory, or ticket, which will pass himself and his cab or carriage toll-free. Application will be made to Parliament upon its meeting for the necessary powers, and the act is not to come into operation till £20,000 out of the £28,000 has been subscribed for. We believe the plan of the new road is that proposed by Mr. Page.

#### ROYAL INSTITUTE OF BRITISH ARCHITECTS.

THE annual meeting of the Institute of British Architects, on Monday last, to resume the consideration of the report from the Council on professional practice and charges. After a discussion, protracted until a late hour, the report, as amended, was adopted, and ordered to be printed for circulation and publication.

**PRESERVATION OF WOOD.**—The preservative action of sulphate of copper on wood has long been known, but there were several anomalies in its action which frequently occasioned. The *Lancet Review* says the late Mr. Keble, in investigating the chemical reactions which occur in the process. He finds that the retention of copper in the pores of the wood is occasioned by the resinous matter present; thus varieties which contain the most resin retaining the most metal; while woods free from resinous matter have been extracted by alcohol, fixes no copper whatever in chemical combination. He, furthermore, has found that the impregnated wood contains less nitrogen than that which is unimpregnated; and since nitrogenous matters are well known to be promoters of putrefaction, the natural resinous matter, and the increased retention of the coppered wood. The utility of the blue vitriol preservative may also depend, in a great measure, upon the resinous copper salt which is formed, and by which the pores of the wood are more or less filled up, so that the attacks of insects are prevented. It is recommended that the wood be immersed in solution for a longer time than is sometimes the case, otherwise the full benefit of the action is not obtained.

## THE DANTE GALLERY.

THE name of the great Italian poet is so invested with interest to the literary and artistic world, that any comment on, or illustration derived from, his highly imaginative pages deserve more than ordinary consideration. The panorama now open at St. James's Hall, Piccadilly, consisting of twenty-seven colossal paintings from the most striking portions of the "Divina Commedia," by modern Italian artists of acknowledged celebrity, will attract attention from those works being regarded as fair specimens of the present state of painting in Italy, and they will also excite an interest in the mind of educated persons, who may wish to become more clearly acquainted with the meaning intended to be conveyed in some of the mysterious passages of this early writer. Dante was a banished and disappointed man, and seems to have imagined that part of his poem known as the "Inferno" for the sake of devoting his political enemies to eternal torments. The whole, founded on the obscure dogmatic and formal of the primitive church, will readily explain, besides the quaint style of writing, the difficulty of understanding many of the bitter allusions which he dared not at that period express with greater clearness.

In the present instance, however, we may say, without hesitation, that the "fine frenzy" of the poet has in no degree disturbed the calm and academic feelings of the painters. If this poem of Dante's produced a powerful effect on his contemporaries and their successors in art during the fourteenth and fifteenth centuries, and exerted a gradual influence on their works, certain it is that neither that powerful effect nor the guiding influence which prevailed during those periods has reached the professors of art in Italy by whom these illustrations have been designed and executed.

The figures generally are correctly drawn and intelligently grouped, carefully copied from models in the studio, and transferred to the canvas with cold and conscientious exactitude. There is great difficulty, however, in treating this part of the subject. The figures depicted are real persons, and are even mentioned by name, but they are described as undergoing imaginary torments in purely imaginative regions. They are, however, the principal beings in a poem, and that poem, too, of the most mysterious kind. The question then arises how far their forms should be idealised by the painter to bring them into union with the poetic elevation of thought, and yet preserve an individuality which might be defended, even if brought down to commonplace portraiture. But how would such treatment be consistent with the terrors and punishments inflicted upon individuals which are intended to apply to human nature and to every class of crime? Besides which the poet employs, to work out the intention of his poetic vision, his animals and birds, some real, others imaginary, demons, and other kind of characters from the mythological, allegorical, and other heavenly messengers, all more or less employed in Hell, Purgatory, and Paradise. The artists by whom this series of pictures has been painted have solved the problem in accordance with the prevailing taste of the day, as regards imitative art, by rendering all their figures as individual as possible, for even the demons are merely human with tails. As, however, the panorama has been previously exhibited in Florence with great success, we may conclude that the taste of the people has been studied, and the dogmas of papacy have been rendered in a manner permitted by the highest authority of the Roman Catholic Church.

It might be doubted, all these circumstances taken into consideration, whether the poem of the "Divina Commedia" should have been illustrated at all, but great artists, from the Renaissance downwards, have taken an entirely different law from those who exhibited the subjects they have selected from it, and have given to them the charms of the highest treatment of which art was capable, whether in the utmost purity of sculptural form or the more varied resources of painting, either in outline, grouping, or coloring; and these efforts date from the time of Giotto and Organo, passing on to Raffaele and Michel Angelo, and come down to Canova, and Flaxman, Ary Scheffer, and Eugène Delacroix.

If the plain matter-of-fact style of the present exhibition has proved by experience to bring the subject home with more force to the religious mind, those acquainted with the works of art by the great masters just mentioned feel how much is lost to the pictorial sentiment of cultivated intellect. Of Giotto little can be said; Organo is best known, perhaps, by his copy of Leonardo's "Last Supper." Michel Angelo and Raffaele are supposed to have derived more advantage in style of conception than any other illustration of the poem. The celebrated "Day of Judgment," by the former, is called Danteque in treatment; but in the refined elegance of Canova and Ary Scheffer, the classic feeling in the works of Flaxman, and the breadth and tone of Eugène Delacroix, we see that even the "Inferno" is capable of poetic elevation by men of mind. With a strong recollection of "Paolo and Francesca," by Ary Scheffer, the picture of that subject in the panorama produces a painful effect; for, besides not being one of the best in the exhibition, it is so offensively commonplace that the only praise it deserves is for, in a striking degree, showing the difference between high and low art. Ary Scheffer's picture was not only pure and elegant in the forms of the unfortunate lovers, but the very tone of color was true to the poem which speaks of the "brown air" through which they are driven by racking winds, and which whirled them away for ever. A view equally poetical has been taken by Eugène Delacroix of "The Torment of Filippo Argenti," in the marshy Stygian Lake. We must give the painter of this picture in the panorama credit for not being tempted to paint the figures covered with the filth of the lake, and he has failed altogether in any attempt to convey that impression; but the

French painter did all that the poem required, and also escaped from that difficulty. He does not invest the figures with a refinement in drawing like Ary Scheffer; on the contrary, he treats them in a broad and picturesque manner, and the "marshy and mired element" is rendered very powerfully to those who know the poem, by the whole subject being enveloped in an atmosphere so dense and murky that no human being could breathe it and live. It was this subject from Dante which excited the wayward enthusiasm of Eugène Delacroix to paint his picture for public exhibition in 1822, producing an immense sensation from the daring novelty of the style, which effected almost a revolution in art. It disgusted his master, Baron Guérin; threw the French critics in fierce contention; and won the admiration of Gros, Gerard, and Freadon, Carlyle begins his essay on the "Hero as Poet" with the name of Dante, and writing of this poem, he says "It has all been as if molten in the hottest furnace of his soul, and the first view he gets of the Hall of Dite is a red pinnacle, a red hot cone of iron glowing through the dim immensity of gloom." After quoting authorities so high, enough has been said to prove that the Italian painters of the present day are far below the mental standard required to illustrate the scenes in this great mystic and heroic poem.

The cold and academical style of the figures in the present panorama becomes still more prominent in the localities in which they are placed, which are conventional without being imaginative, in the higher sense of the term. In fact, the localities wherein torments so frightful are endured are as gray and unpicturesque in color as the ordinary forward drop-scene of the interior of a prison in a third-rate London theatre, and, generally speaking, uninteresting gloom is rarely sustained so long as if molten in the hottest furnace of his soul, and the first view he gets of the Hall of Dite is a red pinnacle, a red hot cone of iron glowing through the dim immensity of gloom." After quoting authorities so high, enough has been said to prove that the Italian painters of the present day are far below the mental standard required to illustrate the scenes in this great mystic and heroic poem.

## ELECTION OF DISTRICT SURVEYORS.

ON Friday last the Metropolitan Board of Works proceeded to fill up vacancies in the three district surveyorships of Bethnal-green; St. James, Westminster; and Putney and Roehampton. At the close of the first voting in each case the number of candidates was reduced to four. Subsequently, on the second voting, the candidate having the smallest number of votes was struck off the list:—

## DISTRICT OF BETHNAL-GREEN.

Candidates.	Vote 1.	Vote 2.	Vote 3.	Vote 4.	Vote 5.	Vote 6.
John Hargrave Stevens (elected).....	28	28	26	21	25	21
Henry S. Legg.....	19	—	—	—	—	—
S. Salter, Junr.....	17	—	—	—	—	—
Horace Field.....	20	15	—	—	—	—
Joseph Hoults.....	9	—	—	—	—	—
G. O. Lane.....	6	—	—	—	—	—
S. B. Markham.....	24	18	15	—	—	—
Henry S. Legg (withdrew).....	13	—	—	—	—	—
Joseph Liddiard.....	19	—	—	—	—	—
John Liddiard.....	21	22	17	14	—	—
Arthur Cates.....	19	—	—	—	—	—
Sydney Godwin.....	27	28	22	25	23	17
Thomas E. Knigley.....	19	—	—	—	—	—
Edward Roberts.....	11	—	—	—	—	—
Arthur Cates.....	18	—	—	—	—	—
Robert Kerr.....	24	20	23	19	15	—
Frederick Todd.....	—	—	—	—	—	—
Henry Dawson.....	5	—	—	—	—	—

## DISTRICT OF ST. JAMES, WESTMINSTER.

Candidates.	Vote 1.	Vote 2.	Vote 3.	Vote 4.	Vote 5.	Vote 6.
G. W. Mayhew.....	27	25	26	24	—	21
Alex. Presbiter.....	5	—	—	—	—	—
John J. O'Brien.....	21	—	—	—	—	—
Horace Field.....	28	15	—	—	—	—
Henry Latham.....	12	—	—	—	—	—
S. Salter, Junr.....	17	—	—	—	—	—
Joseph Hoults.....	9	—	—	—	—	—
G. O. Lane.....	6	—	—	—	—	—
S. B. Markham.....	22	22	17	18	13	—
Henry S. Legg.....	22	21	18	18	12	—
John Liddiard.....	19	—	—	—	—	—
Arthur Cates.....	21	—	—	—	—	—
Sydney Godwin.....	18	—	—	—	—	—
Edward Roberts.....	12	—	—	—	—	—
Arthur Cates.....	22	—	—	—	—	—
William Lightly.....	28	19	14	—	—	—
Robert Kerr (elected).....	29	26	24	25	—	24
Frederick Todd.....	—	—	—	—	—	—
Edward L. Parlane.....	3	—	—	—	—	—
John W. Papworth.....	12	—	—	—	—	—

## DISTRICT OF PUTNEY AND ROEHAMPTON.

Candidates.	Vote 1.	Vote 2.	Vote 3.	Vote 4.	Vote 5.	Vote 6.
Alfred J. Hiscocks (withdrew).....	18	20	12	—	—	—
S. Salter, Junr.....	17	—	—	—	—	—
G. O. Lane.....	12	31	27	24	23	16
Henry S. Legg.....	16	17	—	—	—	—
Joseph Liddiard.....	17	—	—	—	—	—
Edward Roberts.....	7	—	—	—	—	—
Arthur Cates.....	7	—	—	—	—	—
William Lightly.....	27	26	24	20	24	17
Robert Kerr.....	29	26	24	25	—	—
Frederick Todd.....	2	—	—	—	—	—
Edward L. Parlane.....	3	—	—	—	—	—
W. B. Mayhew.....	20	22	18	14	—	—
S. B. Markham.....	20	22	21	26	23	24
Horace Field (elected).....	29	27	21	26	23	24





PROFESSOR SMIRKE'S LECTURES ON ARCHITECTURE AT THE ROYAL ACADEMY.—LECTURE II.

DR. MOORE tells us, somewhere, of his having met at his continental travels with a Scotch tourist who was delighted with the mountain scenery of Italy, and was expressing his enthusiastic admiration of one of the sub-Alpine lakes, when he was told by the same tourist that he had seen some scenes of similar character in Scotland of not inferior beauty and sublimity, and specified one as particularly worthy of his admiration, which turned out to be the scene of the Scotch laird's own paternal estate. He had, in fact, been born in the midst of natural beauty, and he was not lightly regarded as a laird, like that they had escaped his recollection, or, perhaps, even his notice. A similar illustration is apt to be felt by us towards all objects that are too easily accessible. I suppose this evening to invite your attention to one of the greatest of these depositories of intellectual wealth—the Library of the British Museum.

Without attempting to bring before you even the shortest or most meagre enumeration of all the objects of interest to the architectural student which that vast repository may contain (such an enumeration would, indeed, be as much beyond my powers as it would be beyond the narrow range of a lecture), without attempting any such task, I propose now to indicate to you a few of the more striking specimens of the literary and artistic wealth which are in so great abundance in the library of the British Museum, at our disposal, and accompanying them with such remarks as may be of service to you in the consideration of the objects themselves, as I enumerate them. I do not design here to touch upon the antiquities at the British Museum; a critical examination of these, or even a correct appreciation of them, would be beside my purposes as well as beyond my powers. To enter that department would assuredly lead us into antiquarian disquisitions, which I am anxious to avoid, as being foreign to my duties within these walls.

The first book I allude to is a very large folio volume, descriptive of the great Flavian amphitheatre in Rome, and as may be naturally supposed, of long and careful examinations made chiefly during the excavations by the French which in military occupation of Rome in 1811, 1812, and 1813. The author was a French architect, Mons. Bérard, who had long been a resident in that city, having quitted his native country at the outbreak of the great revolution. He seems to have been a painstaking and intelligent observer, and the delicately executed drawings of which this volume consists, with the very minute notes explanatory of them, testify to his care and his profound acquaintance as a draughtsman. He appears to have quitted the practice of his profession as an architect early, and to have been engaged for some years in the decorations of the Royal theatres and of the Opera, at Paris. During his subsequent exile in Italy, these studies were made, one of the fruits of which was the magnificent volume I have alluded to.

Probably there never was executed so complete a monogram of any one building. The only subject of regret is that the drawings generally do not distinguish so clearly the actual portions of the building, and those which are representations of the actually surviving portions of the building, and those which are conjectural restorations of the ingenious antiquary himself. Some of the drawings, however, are not open to this criticism, but are beautifully executed delineations of the actual surface in the building, and I may safely affirm that all the drawings bear very strong marks of having been the work of a painstaking and scrupulous artist. The work was intended and fully prepared for publication; it has remained, however, in MS., and ultimately became by purchase the property of the Trustees of the British Museum in 1847.

In many respects the Colosseum at Rome is one of the remarkable buildings of antiquity. It has all the attributes of grandeur. In its actual dimensions, I believe it to be the largest single building ever erected, unless we except the Pyramids of Egypt, which are, perhaps, hardly to be considered as regular architecture. Its simplicity of character and unity of design are also sources of grandeur. There is a breadth of manner and a noble abstinence from trivial ornamentation in its external architecture, which greatly elevate the character of the building. There is in its structure, in the construction of the walls, a monument of consummate constructive talent; a talent not paralleled itself, like a medieval cathedral, by the perpetual manifestation of great efforts—laterally, and counteracting weights; huge picturesque masses of masonry piled up solely to resist the tendency of the structure to fall, and standing on the structure. This immense building, on the contrary, stands, and has stood for sixteen centuries, not by any straining exertion, but simply because all the laws of static science have been scrupulously regarded. I am justified in saying that it has stood for sixteen centuries, notwithstanding the constant action of earthquakes and tempests, and the erosive agency of natural causes. It still stands with few marks of substantial injury, except those which it has received from the destructive hand of man.

It has been for ages the quarry whence ready worked stones have been continually abstracted, and whole palaces have been the results of such spoliation. Yet it survives, next after the Pyramids, the greatest architectural monument in the world.

"A ruin, yet what a ruin! from its mass  
Walls, palaces, half entire, have been reared;  
Yet all the enormous edifice here  
And marvel where the spoil could have appeared."

I must not dwell much on the structural merits of the building, but I cannot refrain from expressing my persuasion that the very ablest practical mason of the present day might study with great profit the jointing, bonding and use of this mass of masonry. All this use of economy of labor, the construction of a structure of economy by which rubble-work, consisting of broken fragments of stone embedded in Pozzolana cement, is strengthened by an artificial introduction of bonding courses of brick, these bricks being often of very considerable size, and always of excessive length. All this use of economy of labor, and the utmost strength is, indeed, well calculated to excite the admiration of every practical eye. Yet this wise economy of labor and materials, which is apparent throughout, was never allowed to interfere with that stability of workmanship

which was evidently a paramount consideration with the builders. The three-quarter columns, for example, of which the exterior is so great a multitude, are not built as isolated blocks of stone, but are applied to the surface of the wall for the mere sake of ornament, but are built in and bonded with the masonry of the walls, contributing, therefore, to their strength quite as much as to their beauty. The use of the reverse of the wall, which was very commonly the case with the slender shafts of medieval architecture, which were often inserted to give lightness and richness of effect to the pier against which they stood, is true, to convey to the mind's eye the idea of support to the corresponding members of the structure, and to give to the eye the lines, but not practically forming any real integral part of the wall, and, in fact, against which they stand. That this was, at all events, often the case more or less deprived of either by nature or by the skill of the workmen, but not practically forming any real integral part of the wall, and, in fact, against which they stand. That this was, at all events, often the case more or less deprived of either by nature or by the skill of the workmen, but not practically forming any real integral part of the wall, and, in fact, against which they stand. That this was, at all events, often the case more or less deprived of either by nature or by the skill of the workmen, but not practically forming any real integral part of the wall, and, in fact, against which they stand.

remaining, nevertheless, perfectly unaffected by the removal of them. In like manner, in that in their working the columns as an integral part of the wall behind it, as, I believe, invariably do at Colosseum, a considerable amount of extra labor and some loss of material was incurred by sinking the circular shaft out of the solid block—a labor and waste, however, which may have been heeded when the perfect stability of the work was in question. These columns, thus constructed, not strictly and effectively as buttresses, giving great lateral support, whilst they so largely contribute to the ornamentation of the structure.

In like manner, the vast blocks of stone forming the entablatures tailed into and bonding with the rest of the masonry, not merely laid upon the pillars to convey the idea of construction, but really forming an essential part of the wall masonry.

I need very manifest that extreme durability was ever a foremost consideration in the mind of those able Roman masters. A curious instance of this consideration occurs in the construction of the steps of the numerous public staircases, being open, and therefore constantly exposed to the weather, it is obvious that the steps were simply laid on each other in the usual way now-a-days, the wet would have been liable to penetrate or be driven through the steps, and in the course of years, the gradual but constant penetration of wet would have injured the vaults and arches beneath on which these steps were laid. To prevent this, the very ingenious architect, I should imagine, a very effective contrivance was devised, consisting of a sinking cut into the face of the riser of the step beds upon the tread of the step beneath it, which sinking, as Mr. Piers very judiciously shows, was made to receive a covering, or what would have been a mass of masonry or cement of some kind, well calculated effectually to exclude wet.

I must, however, no longer dwell on these practical subjects, which might be multiplied to almost any extent, all tending to prove that there were master masons among the builders of Rome as well as among its literary and political chiefs. Although this wonderful building now presents to our view little more than a vast mass of bare masonry and brickwork, deformed by time and by barbaric degradations, it is not to be doubted that its internal embellishment was as gorgeous as any of the palaces of Rome. The fragments of sculpture, and to magnificence, and who might be supposed to be especially lavish in the adornment of this, the most highly favored center of attraction to the pleasure-loving citizens of Rome. Mr. Piers furnishes us with careful drawings of fragments of the ornamental details which fully confirm the opinion of the antiquaries, and the lineings appear to have decorated the interior of the halls and corridors, and notwithstanding the ravages that these ruins have for ages been subjected to in the use of the precious marbles, fragments of fluted columns yet survive of richly colored and most beautiful workmanship. The amount of labor bestowed upon so subordinate a detail as the fluting of the shafts of the marble pillars.

It should, however, be observed, in justice to the architects of the Colosseum, that the somewhat excessive extent of minute decoration, as indicated by the few surviving specimens, is confined to the interior; whereas the exterior, being of the constructive features and in the details, is remarkable for general simplicity.

In this building, as in most of the Roman monuments of the best period, a greatness of manner eminently distinguishes its exterior architecture, a circumstance which is in the presentness to crowded ornamentation at the present day so prevalent. Without going into a detail of the little more than stand, indeed, find that in Roman art in its best and purest days, and in Medieval art at the justly applauded epoch of the thirteenth century, and in Renaissance art at its most brilliant, the same sense of the value of ornament was maintained, and at all these epochs of art we shall find no vulgar, overloaded decoration, but abundant evidence of that just appreciation of the value of ornament which knows how to use it with due effect, and when it may be usefully dispensed with, it is not to be denied this remarkable volume from your notice without noting the extraordinary dimensions of the building. The height of the structure, from the base of the major axis to be 560 feet, and of its minor axis 460 feet; whilst the height from the ground-line outside the building to the summit of the exterior wall is 160 feet. Paris makes an elaborate calculation of the actual number of sittings afforded by the inside benches; the result is 44,000 persons. The most conservative of those (like Fontana and others) who represent the number of persons accommodated to have been 80,000, or even more, were either wild exaggerations, or the result of the mistake of having been obtained by counting the multitudes who could have been crowded into the arena, and not the actual number of the broad platform at the highest part of the amphitheatre, and possibly, too, on the arena itself.

I will now invite your attention to two splendid folios of drawings preserved in the Royal Library, of which the first is a drawing of the Colosseum, executed very carefully and cleverly in outline, slightly shaded, and tinted, upon vellum. The series comprises plans and views of the chief Royal Palaces of France, together with some original designs, by Jacques Androuet du Cerceau, one of the most eminent among the originators of the Renaissance in France, born about 1515.

These valuable and interesting drawings were made for Catherine de Medici, and certainly formed part of the Royal Collection of France. How they subsequently became transferred to their present place on the shelves of our great public library is not recorded.

It is not my intention to particularise all the buildings represented in these



sents a statue of Socrates; and, whether intentionally or not on the part of the artist, conveys an almost instinctive reminiscence of what one cannot but fancy the sovereign of United Italy himself might be with little else upon him than a rather scanty shirt. The compliment, if it be meant for one, is indeed somewhat dubious.

Vela, another Milanese, contributes one figure only, and that of an almost too voluptuous cast of beauty and attitude—"Spring," a nymph bounding upwards, but, as it were, caught, and entangled in the vernal flowers from which she seems to be rising. In the modelling, and that trifling admixture of coloring of flesh in marble, which the Italiane term *veridicezza*, there is nothing, I think, in the whole Exhibition to equal it. It is to be regretted that other works of Vela's are not to be found at Florence.

The most ambitious work in the Exhibition is the "Daughter of Zion in her desolation," by Morelli, of Leghorn; but in aiming at grandeur the sculptor has neglected beauty, and thus fails to engage the sympathies of the spectator.

Fantacchiotti, of Florence, who enjoys a great and deserved local reputation, has sent several works of merit, and, among the rest, a fine statue in marble to the late wife of Mr. Spence, an English artist, long resident at Florence. The figure, which is that of a very beautiful matron, is represented as extended, after the manner of some of the finest of the cinquecento monuments, on a tier, recalling, in many particulars, the general form of the ancient *Voluptas*. In front are amorini, and beneath square tablets, inscribed, as it were, in a plain and well-designed pedestal. The special merit of this work is two-fold. In the first place, all that may be called pure sculpture,—that is the representation of the human form, and the draperies and ornaments connected with it, are thoroughly good; and in the second, these elements are combined with such conventional lines, masses, and ornaments, as adopt the whole composition for alliance with whatever may happen to be the architectural forms of the structure in which the beautiful work is to be displayed. The subject is one of the commonest of all in similar combinations may be, it is scarcely necessary to point out to an audience whose remembrances of St. Paul's and Westminster Abbey would, probably, be too poignant for me to do more now than hint at them. Strazza, whose "Lairn" in the Exhibition of 1851, and whose "Audience" in the Crystal Palace, have made us well acquainted with his capabilities, fails to sustain them at Florence in his statue of the "Spina Novella," which has, however, received the compliment of purchase by the King. Neither strikingly beautiful nor very pretentious of its title, the modesty of the recent bride seems rather of that affected class, the freedom from which I have already commended in Magni's masterpiece.

Stancilli, of Florence, a well-known artist, exhibits a "Shepherd Boy," which has merit, but his "Magdalen" is too close a reminiscence of that of Canova, and fails to sit up comfortably. The infant's "Prayer of Innocence" is offered up rather by a little man than by a true bambino.

The same reproach as to want of truthfulness in form may be applied to the "Angelo Mendicante" of Canova, which, in the modelling and execution, which, however, is clever and expressive. The same sculptor's "Eve" recalls far too much and too many of the leading defects of our English Academician Bellini. Perotti, of Milan, exposes a very good anatomical study, in the shape of "A Hunter killed by a Snake." The subject is a difficult one, and has been well mastered by the skill and knowledge of the artist.

In the true academic style, Costoli's "Death of Menecius" is to be highly commended, as being thoroughly well modelled, and well executed in a difficult piece. His "Charity" is a large and noble work, as well as good.

Dupré shows a "Mater Dolorosa," the character of which is sublime and devotional in a high degree. He has also a "Sappho" in an attitude not altogether dissimilar to, although in no way plagiarised from, that of the well-known statue of Prodicus; and a sculptural group, apparently, a large Bower-bell. The modelling and composition of the figure is alto-relievo, which decorate the latter, it is no small praise to say, are, I consider, fully equal to those we so much admired in Professor Drake's pedestal in the Great Exhibition of 1851—a somewhat similar work. The attitude and expression of the "Sappho" and the draperies are admirable; but some portions of the nude have been modelled from rather too low a type of female beauty to be altogether satisfactory in a work of ideal art.

Admitted into the fellowship, if not the nationality, of Italian sculptors, are the well-known American and English artists, Power and Fuller. The "Greek Slave," and "Youth holding a Shell," the "Proserpine" and admirable busts of the former, are too well known in this country to need dwelling upon; but with the "Amorini" are well suited to the occasion. Unless the life and variety of that population, whose every breath it appears must be drawn in an atmosphere of sensation, and whose vital energies seem inexhaustible, the embodiment of the sublimated essence of modern republics is made and dead; but, like at least the major section of that population, she is dead, she is dead, she is dead, and tottering, and one touch only seems wanted to overthrow the unstable goddess.

By the latter artist (Captain Fuller), there is a remarkably good figure of a "Dying Boy," admirably modelled in the expression. The tempest-tossed sailor still struggles, though evidently unavailingly, with the elements which overpower him.

This scanty list by no means exhausts the excellences, or perhaps rightly directs the student to the selection of the best collection of works of sculpture, which it is not too much to say formed the leading feature of the Florentine Exhibition; but I feel that it is necessary to quit the field of pure sculpture for that application of the art which lends its highest graces to industrial production.

The two most distinguished workers in this department of industry, worthy maintainers of the fame Brustionico acquired for Italian wood-carving in the last century, are well known in this country—Barbetti and Pietro Cheloni, of Florence.

The former exhibits a grand door, carved with no less than 29 alto-reliefs of Biblical subjects, treated somewhat after the manner of the celebrated gates of Ghiberti. Unlike them, however, the sculptures under notice have been executed in walnut-wood, as well as in marble. The carving is, however, executed to door whose Russian chapel at San Donato, near Florence, they are intended. The general design is, it appears to me, monotonous, from its extreme rectangularity, and is ill-arranged in the junctions of the vertical and horizontal divisions with the scrolls, heads, and other ornaments. The carving, however, executed in so masterly a style as to constrain an admiration for the details which falls to be excited by the general aspect of the whole.

The same artist contributes a large oak bench, the seat of which is hinged in order that the lower part may answer the purpose of the *cassapanca*, which formed so leading a feature in the Italian interiors of the quattro and cinquecento periods. In general design this work is better than the door just referred to, and has a feeling of more repose.

The capability for the most important works, shown by these productions, is shortly destined to be put to an even oftener purpose, since Barbetti and his sons are now engaged in the execution of a magnificent case, 6 feet 6 inches high, carved and ebony, and inlaid with ivory, for the Countess of Jersey, in this most important work a full-sized water-color drawing was exhibited, and I fully believe that the realisation of the design (which is exceedingly good) will be not unworthy of the ancient glories of Italian ornamental carving.

The latter work is a picture which perfectly satisfies the delicate work of Mino da Pistoia carved da Luca and Andrea Ferrucci, and proves that, with judicious encouragement, he may become a formidable rival to the most distinguished amongst the Florentine magnates in the production of luxurious furniture. In the same way, the all, singly, and in combination, of the subjects of ornament. It is to be hoped that this fine bench, as well as the case for containing the national crown, by Barbetti, may form ornaments in our Exhibition next year, where they cannot fail, I think, to be greatly admired.

The other rivals, there are, many, many more, many more, many more, the excellence of Barbetti and Cheloni in ornamental carving, are Antonio Supercchi, of Parma, and Professor Giusti, of Siena. The former exhibits only a small panel, carved in soft wood, with arabesque ornament. It is, however, a masterpiece. The latter work, and appears to be well supported by English patrons, since his miniature reproduction of the celebrated Fountain of Jacopo della Quercia at Siena, and his exquisite little picture frame, have been produced, the former for the Earl of Northbrook, and the latter for the Marquis of Northampton. Both Italian artists, the latter, I think, has been more successful in his art, to contain autographs of men of science, artists, poets, &c. The shrine is by no means unworthy of the relics.

Time will not permit of my dwelling at greater length upon individual specimens, even extending my catalogue of ingenious artists. It may be said, briefly, that in marble, stone, ivory, ebony, and plastic compositions, the application of sculpture to industry forms, probably, the most distinguished feature of the industrial portion of the Florentine Exhibition.

It would be useful in the Italianate to pass the subject of applied sculpture, without noticing one form of it in which, from classical times to the present, they have maintained a decided pre-eminence over other nations. I allude to the art of working in gems and precious stones.

The latter art of Gem-cutting of Rome, are celebrated, and their productions still command very high prices, in proportion, perhaps, to the labor, but too great for the art displayed; as, for instance, the single cameo of Signor Girometti is valued at no less than 30,000 francs, or £1,200 in price, possibly, as the Italian says, "da combinarsi a no." Neither of these little, in my judgment, sustains his previously acquired reputation, while the intaglio of Berini of Milan, a less known name, are, if not so valuable, far more agreeable, being both designed and wrought in better taste, and rather reproducing Grecian, than ancient Roman, work of execution.

The old celebrity of Valerio Vicenti for the execution of intaglios in crystal, resting not only on the warm tribute of admiration paid to his genius by Vasari, but on the skill of his skill still persists, and he has been, in his time, as has excelled the noble execution of Beltrami, of Cremona, a very beautiful specimen of whose handicraft is exhibited by the Brothers Turina. I believe Beltrami to be no longer living.

The medallist art of Italy, so famous of old through the dies cut by Cellini, Bastiano, Cennini, and others, is well sustained in the present day, and the specimens furnished by the mints of Florence and Rome show that their ancient dexterity has not entirely deserted their descendants.

Before attempting quitting the fine arts, there are some forms in which they appear so closely allied to industrial art, and in their alliance so little modified, as to demand notice, before proceeding to a consideration of those industries, the types and constitution of which are affected comparatively remotely by the three fine arts. I allude to the forms of these categories engraving, lithography, chromo-lithography, and photography.

From the days of Marc Antonio Raimondi, through those of Volpato and Raphael Morghen, to modern times, rendered illustrious by the names of Perelli, Jos. and Tochi, the Italian school of engraving has never been, in its history, unquestioned pre-eminence over its contemporaries of the rest of Europe. That great work, the engraving of the Frescoes of Correggio at Parma, upon which all the later years of Tochi's life were employed, contributed to the education of a generation of engravers, many of whose works are fully worthy of their cultivated master.

The basis of all excellence in this art is, of course, the perfection of what is known as the engraver's drawing—in other words, his rendering in chisello on the stone, or the plate proposed, the product of the picture selected for reproduction on steel or copper. In this art the Italiane have greatly excelled, and do so still, since it would be scarcely possible in this way to surpass such a drawing, for instance, as that by Calamatta of Raffaele's "Madonna di Foligno."

For perfection in soft and fleshy modelling the palm must, I think, unquestionably be given to Tochi, for his print of the Madonna della Scala, by Correggio; and Tommaso Aloyio Javara, the leader of the Neapolitan school, wherever he is, and his specimens are of extraordinary excellence, must, I think, be placed next in order of merit.

Of Tochi's old assistants on the Parmense Correggio, Perelli of Florence, Scotti of Genoa, and Calamatta of Chivita Vecchia, many agreeable specimens are exhibited, and those of the Madonna della Seggiola, by the first-named, is worthy of high commendation.

A work now in progress on the gallery at Florence, and most creditable as a current Italian publication, appears to have given employment to many of the best contemporary engravers, and beautiful plates will be the engraver's drawings for the work are exhibited by Uliano Torni, Federico Calandri, and Antonio Tricca.

I cannot leave the subject of Italian engraving without noticing the extraordinary pen-and-ink drawings by Professor Visconti, Giustino of Naples, and three other artists, the artist has depicted, in a manner more than the "Joys of Paradise," the "Sufferings of Purgatory," and the "Despair of Hell." Not only are these compositions highly imaginative—in this respect rivaling the





CRICKET MALHERBIE CHURCH, ILMINSTER, SOMERSET.—MR. J. MOUNTFORD ALLEN, ARCHITECT.









In new buildings improvements may be easily adopted which are not always applicable to old buildings; but, as far as circumstances allow, they should be carried out, from a settled conviction that pure air is indispensable to a healthy state both of body and mind.

Windows properly constructed, made to open at the top as well as below, and suitably placed, afford the most ready means for the natural ventilation of dwellings, besides which are the various contrivances of louvers of perforated glass, zinc, tin, &c.

A chimney acts as ventilators whenever a fire is lighted in a room: the lower stratum of air being immediately set in movement, a current of air is established from the crevices round the doors and windows, or from any other openings towards the chimney, whereby much of the vitiated air is carried off. This chimney, and therefore, bed-rooms with more healthy than in any other room without. It should not, however, be forgotten that a large portion of the vitiated air ascends above the chimney opening, and therefore it is essential that a provision be made for its removal thence whenever perfect ventilation is desired.

An independent supply of fresh air may be introduced into most rooms which have a fireplace, by conveying it through a pipe or channel formed under the floor or in the wall to an air-chest so constructed at the back or sides of the room, in order that it should be there warmed before entering the room. I have seen in Edinburgh a solid fire-place bed-room chimney-piece and grate formed so as to leave when it is set a cavity round it, which appears well adapted for this purpose. The same or a separate pipe or channel may also be used for feeding the fire with air, independent of the chimney, which may be supplied with air out at the checks of the stove, rather than beneath the grate, which is liable to cause diffusion of dust in the room. Such a supply of air tends to render necessary ventilating valves more certain in their action than they often are, owing generally to an insensible draught of air which is liable to cause the emission of smoke into the room. These valves would be invaluable for the discharge of vitiated air, which is their intended purpose, were it not for this occasional ingress of smoke. The most effective means of avoiding that evil is the carrying up an independent fire in close contact with a smoke-flue, constantly in use, so that from the kitchen, the air within the ventilating flue is by this means rarefied, and the action of the valve rendered more efficient. Tubular grates of pottery, made for this express purpose, are found to answer well, and have the advantage of occupying but little space, whilst they are not liable to the objection pointed out to me many years since by an eminent builder, who had found that cast-iron fire flues, having no mortar joints, acted as a dead shore to the walls. In cases where the chimney-valve being fixed in the flue, causes an ingress of smoke, the most effective remedy is, I believe, to use a grate, or grate, with the draught duly regulated by a contraction of the vacant space over the fire. These grates economise fuel considerably.

Ordinary grates, which are remarkable, as a wasteful of heat and fuel, and both of which would be much improved by the substitution of a stove, would, by the use of the grate, and combining the chief advantages of the one known as Dr. Arnott's ventilating stove, with the cheerful open fireplace. I have seen such stoves in use on the Continent, and I believe that the only valid reason against their adoption is the small space which they occupy, and the difficulty—not, however, an insurmountable one—of applying them to fireplaces with the ornamental chimney-pieces in such general use. One of the most useful modern improvements in grates is that of forming the back and linings with fire-brick, instead of iron.

The intimate connexion between warming and ventilation has led to a disagreement, in returning from which I remark that, in order to render natural ventilation efficient, the openings required for the escape of vitiated air should be placed either in the ceiling or near to it.\* How for the admission of fresh air also in the upper part of the room be objectionable, on the ground that the air vitiated by breathing, which ascends in consequence of its relative lightness, is in that case only diluted, and not entirely replaced by pure air, remains, I believe, yet to be determined by properly conducted experiments.

With all the various contrivances and arrangements proposed for the admission of fresh air, and the exit of vitiated air, aided by those appliances which are scarcely consistent with the term, natural ventilation, none have come under my observation which secure such an action, and fully guarantee the necessary provision made for the exit of vitiated air shall not become the medium for the ingress of cold air, on a change of temperature in the apartment, the frequent occurrence of which is a draught more or less perceptible. In order to avoid this evil, various means have been proposed, but none of them have been of varying success. The use made of chimney-shafts for this purpose has been generally noticed. Tubes or shafts, of wood, of clay, or of metal, are also available, provided a constant outward current is maintained by such an application of air, as will sufficiently rarefy the air in the room, and water being applied externally for this purpose with advantage. I have used gas enclosed within an upright shaft partly of wood, the light being placed behind a square of glass, and the air entering through perforated zinc, with a hopper enclosure; by this means the combined benefit of light and ventilation are obtained from the same quarter. In many situations this simple plan might be easily adopted, and in dwelling-houses generally I believe that gas might frequently be rendered a valuable contribution to ventilation, instead of being injurious to health. As a matter, with a double tube, the heat of the vitiated air, and the heat of the gas, the utilisation of heat from stove fires, from hot water, or from gas in ordinary use about a house, is apparently so natural and easy a means of obtaining a motive power to assist in the ventilation of dwelling-houses, that I have noticed them under the head of *natural*, rather than of *artificial* ventilation, to which I must now refer.

*Artificial* ventilation is ordinarily effected by the action of valves, fans, pumps, screws, furnaces, stoves, or other artificial heat, and a variety of contrivances, whereby air is either drawn out or forced into an apartment.

In the one case, the space occupied by the vitiated air, which is withdrawn, is replaced by an admission of pure fresh air; and in the other the pure air forced into the apartment causes a displacement of the vitiated air, for the escape of which due provision must be made. In both cases a just proportion between the volume of air which sought to enter and that which should be expelled is necessary; and to secure that the former shall be equal to the latter, for a portion of the year, means must be provided for warming it prior to its distribution in the apartment. The best means for effecting this is, I believe, by bringing it in contact with heated bricks, suitably arranged in stoves or furnaces. The air heated from this for this purpose the air is liable to be overheated, or, as is commonly said, burnt. Hot water, which is similarly employed, has not this injurious effect.

Nothing can be more incommensurate with a healthy system of warming than those contrivances which provide only for raising the temperature of the air already in the apartment, vitiated as it may be. Such is mostly the case when the German hot-air stove is used, and also when hot water is circulated in pipes through the apartments; but either may be employed with impunity as an auxiliary to a good system.

Whether suction or propulsion be preferable as a motive power, for effecting the change of air in ventilation, is a question which has been much discussed here, as well as in Paris and Brussels. After examining both systems in their practical application, the latter appears to me decidedly preferable, excepting in peculiar cases, when the power of suction may be more readily applied.

When fresh air is forced into an apartment, through suitably placed openings, it becomes more generally diffused than it would be when its entrance is dependent on the withdrawal of the vitiated air by means of suction, the tendency of which is to draw the fresh air towards the point of exit, instead of leaving it to disperse more liberally and freely. Suction involves the further disadvantage of setting in movement all the air in the apartment, which would seem to be a needless expense.

Whilst artificial ventilation is mainly applicable to public buildings, to manufactories, and to dwelling-houses of considerable magnitude, its principles may often be adopted in numerous instances occurring in an architect's practice.

For this reason, as well as on account of the great influence which ventilation exercises on health, more has been said on this branch of my subject than some may consider necessary. I cannot, however, quit it without expressing a regret that the science of ventilation\* has not been more thoroughly mastered, and its practical application more generally understood, than it would seem from the report of the Government Commissioners on Warming and Ventilation, known doubtless to many of you, and which, with its mass of practical information appears to me to have failed in placing the subject in that clear light which was contemplated on the report by the late Mr. H. J. Forth, and which, I believe, was recommended by a committee of eminent scientific men, comprising chemists, engineers, and physicians.

Having considered those circumstances in regard to a healthy dwelling which apply to the locality, to the soil, to the structure, I now attempt to notice very briefly—those which depend mainly, though not wholly, on the occupants themselves—external and internal cleanliness, and a proper use of structural arrangements.

Provision for rendering a dwelling dry, or for its efficient ventilation, will not secure the health of the occupants, if there be either around or within the house an accumulation of dirt, whether in a solid or in a liquid state. However may, to all appearance, be very desirable dwellings, but the drainage and the out of doors there are considerable sources of impurity, and foul smells, there is no safety for the inmates. Nor can the close proximity of stables be a matter of such indifference as might be supposed from the practice so prevalent in the most wealthy parts of the metropolis; for an inevitable consequence of the close proximity of stables to the house is, that the ventilation remain closed, in order to exclude the noxious fumes of the dung-heaps.

Neglect of the sanitary laws is as much manifested in the country as it is in towns, and on the Continent not less than it is in England. It would be easy to point to spots where the air is unwholesome for purity, and the scenery around of surpassing beauty; and yet such are the accumulations about the dwellings, that it is difficult to enter the doors without wading through a stream of filth, alike offensive to the sight and to the smell. Can it be a matter of surprise, that such violations of the known laws by which God regulates the health of his creatures, be visited with sickness and premature death? With equal certainty as to the issue, we may predict that those who live in close proximity to the stables, and to the dung-heaps, to find themselves, and their families, to suffer from fever or dysentery, as we do that the house in flames will be consumed if the destructive element be not extinguished, or that the neglected garden will overrun with weeds and become a verminous den.

Internal cleanliness, and the health of the occupants, and all that matters of daily routine are connected therewith, including proper attention to the sinks and traps, as well as the ventilation generally, is, in the main, left to the care of servants; and often through their ignorance, rather than their culpable neglect, the health of the family and especially that of the young children, is very seriously injured, without the slightest apprehension as to the cause. Many instances might be cited in proof of a fact which is calculated to arouse even the most self-indulgent, and to induce them to co-operate in such a difficult and arduous task, and to secure alone insure the health of the occupants themselves, a proper use of the structural arrangements essential to a healthy dwelling. The middle classes would contribute less grudgingly than they now often do, towards the cost of public sanitary improvements, and would evenurge those who are better acquainted with the details of the sanitary system, to a practical knowledge of such of them as relate to in-door life—whether it be that of the dwelling house, the manufactory or the workshop—would lend their duty to appreciate the advantages of cleanliness and good ventilation, and would be less likely to be deterred by the expense generally of such improvements, than the numbers of working people congregate for many successive hours, partly by gas.

If the want of knowledge and forthrighted how many in the upper and middle walks of life the full enjoyment of a healthy dwelling, how much more is it the

\* In a certain description of common rooms, ventilation may be effected by means of wooden tubes perforated with holes, or having chinks at the angles; in some cases they may be carried across the ceilings, and in others be fixed at the angles. They have also been used in the form of a spiral, and in some cases, as in the case of the "Horn" Ventilator, which is a spiral of wood, or of metal, and is fixed at the angles. They are not so generally used, and are not so likely to be fixed as either Sherrington's or Hart's Ventilators, both of which are very useful in many situations. A cheap cottage ventilator may be made with a triangular piece of perforated zinc, or of perforated wood, and a movable cover, which may be hinged.

\* A simple test, whereby the deterioration of the air could be readily ascertained, is a great desideratum.

The revised publication is a cheap form of Miss Nibbing's highly practical Notes on Sanitation. I have endeavoured to give some practical instruction in a lecture, entitled "Home Reform; or, what the Working Classes may do to Improve their own Ventilation."











## THE ASSOCIATES OF THE INSTITUTE.



HERE is room for progress in most public bodies; and those corporations and societies have ordinarily been the most useful, the most honored, and the most powerful, which have constantly endeavored to keep themselves abreast of the changes in the course of things around them. The Royal Institute of British Architects is no exception to this rule. Whatever may have been the exact exigencies of the time at which it was constituted, there can be no doubt that, in order for it to maintain unchallenged the head of the profession, certain alterations in the customs—perhaps, some changes in the constitution then established—have become necessary from time to time; and it is equally true that just so far as those alterations have been recognised and acted upon, has the popularity, the power, and the vitality of the Society increased.

We recognise gladly such features in the recent history of the Institute as the gradual increase in the value and practical interest of the papers and discussions, the location of the Society in a building, and the election in succession of two very eminent practising architects to the post of President. The increased number of prizes open to students, and, above all, the continued and increasing attention bestowed upon matters of professional interest—such as the proposed voluntary examination, the conduct of architectural practice, and the like, are all circumstances that give gratifying evidence of the energy and elasticity of the Society, and its desire to benefit the profession at large, and all give promise that no really necessary reform will be long overlooked or postponed if the members can once be brought to acknowledge its importance.

The condition of the Institute has long presented an anomaly which has often provoked complaint, and which we consider to be one of the first matters deserving attention; we refer to the unfortunate working of the division of its members into Fellows and Associates, a division which, even if right in principle, is not correct as applied by the Institute, and is the occasion of much that hinders the prosperity of the body, and that to an extent greater than is suspected by many.

The profession of architecture may be said to be really divided into two great classes, each comprising many men of skill and experience, but widely different in their relation to professional practice; these classes consist of those who are and those who are not in responsible practice on their own account.

This distinction is broad, intelligible, and real. On the one hand we have a body of men whose conduct in matters relating to practice, whose customs in matters relating to valuation, whose evidence as given in courts of law, and whose daily habits, form the customs and precedents of the profession.

The youngest of these can do harm by improper practice, or can do good by maintaining, as opportunity offers, principles of justice and fairness, and the oldest cannot afford to go counter to the general expression of the opinion of this body of men. No man in actual practice and in any way recognised by his brethren, can commit an unworthy action without inflicting a blow upon the profession, and each one who is courteous, accomplished, distinguished, and successful, reflects honor on the whole body. It is then in the highest degree desirable that these men should be knit together into one community, and that as strong a feeling of union and mutual assistance and dependence as possible should be fostered. It is most desirable also that the younger men should, from the first, feel that they are responsible for what they do to a public body, and that, on the other hand, they are so affiliated to that body, as that their best energies and much of their leisure time is fairly due, and ought to be devoted to objects of common importance. It is equally necessary that the leaders and patriarchs of the profession should welcome the newcomers as men embarked on the same voyage as themselves, or, to put the matter proverbially, men "sailing in the same boat." On the other hand, the large body of architectural men not actually in responsible practice, while it is no doubt comprehends many whose energies and knowledge are of great value, includes, in the very nature of things, hardly any whose opinions, customs, or practice, can have a wide influence on the profession at large. The responsibility and influence, and together with it there is a difference in professional position between a man who receives orders from another in the same office, and one who does not, which cannot be overlooked.

There can be no doubt that the true constitution of an Architectural Society would admit this difference, that its members ought to consist exclusively of men in responsible practice, and its influence on the young men not yet so engaged. This being so, there can be no doubt that, while the personal weight of the senior members and their long experience would always secure to them the direction of the affairs of the Society, the energies of young men would from the first be enlisted, and a most salutary sense of the responsibility they assume on entering practice would be excited.

Now, what is the actual state of the case?

In the Institute we have a division into Fellows and Associates, the former being the only *bona fide* members, as they alone are entitled to vote.

Instead, however, of this division being dependent on the test we have shown to be the natural one, the actual qualifications for becoming a Fellow are, first, the intending Fellow must have been seven years in responsible practice; secondly, he must be willing to pay for admission a year in place of two; and, thirdly, he must make a declaration, the practical interpretation of which is that he will not measure works for builders.

This artificial distinction ought, we consider, to be removed, and we have little doubt that the day will come when it will be removed. Among the results of it may be traced the following undesirable, but existing, circumstances.

The Institute at the present moment is deprived of the membership of a considerable number of useful men who do not choose to enter as Associates, and have not been long enough in practice to enter as Fellows. Of these the majority are lost altogether, because, having kept aloof for seven years, they commonly feel, when the eighth comes, that they care nothing about membership, and remain permanently away.

The Institute includes a heterogeneous body of Associates, which, while embracing a certain number of assistants and students, the only legitimate class from whom this body ought to be recruited, includes also a considerable number of men in practice who are not yet eligible on account of having been for less than seven years in responsible practice, or on responsibility, and a good many others eligible, indeed, as far as years of practice go, but who elect to remain Associates, some because they have taken up measuring as part of their practice, some because they do not choose to double their subscription, and many because the treatment they have received as Associates has not encouraged them to seek a more intimate connection with the body.

It would be introducing a topic that would swell this paper beyond all bounds were we to introduce and examine the question of measuring. An opportunity may occur of doing that, but in what we are now saying we are obliged to leave out of consideration the claims of those Associates who remain as such because they prefer to measure, if they like, and we content to base our argument solely on the unreasonableness of marking off so large a number of educated, energetic men in responsible practice, as though their youth necessarily disqualified them from being admitted members, and we maintain that the advantages to be derived from securing the hearty uncompromising co-operation of these members on the body would be well worth securing.

Sometimes, however, the difficulties of a formal revision of legally settled rules, such as those established by a Royal charter, is so great that one is obliged to be content with an informal but practical remedy for temporary purposes. Has any such practical remedy been applied?

We regret to be forced to admit that the false position in which the larger part of the Associates of the Institute are placed, and the constitution of the Society, has not been always counteracted, as it might, by the habitual and customary modes of procedure, but that the contrary has in times been the case. Associates have had to complain, and with great reason, that the tone adopted towards them, as a body, is not that to which many of them, as individuals, are fairly entitled; they feel that not only does their inability to vote tell against them—a circumstance which, as matters stand, cannot be helped—but that too often the tone adopted is as though they, notwithstanding any amount of practice, of personal devotion to the profession, of education, and of ability, are in no way to be held as of much account, are not to be admitted as equals, but, if they are to be listened to with consideration, it is on condition, and if they object, are to be put down as turbulent and ambitious.

Architects are gentlemen, and, therefore, all this is done with a certain amount of courtesy and amenity of manner; but other architects are also gentlemen, and the position they are forced to be content with is one less grilling to them, because, if sometimes cuttingly reminded of it, those reminders are not also coarse; and we do hope that, this serious element of ill-will will be considered, and, as far as possible, amended.

One remedy, the most effectual but by no means the most desirable, lies at the disposal of the Associates themselves did they but choose to use it. Let but the present Associates remain as they are without becoming Fellows, and in a few years the character and importance of the Associate body would be raised to such a pitch, by increasing numbers and increasing weight of character as would compel any desired recognition. This course, however, if the profession would be, quite unpracticable, it would involve a sort of hostile combination which we should be glad to see avoided, and it would always be liable to fail, as the good intentions of many a valiant hearted Associate have already failed, under well-directed invitations from some of the higher powers to "come up for a Fellow."

A better course, and one more worthy of the spirit proper to the members of a liberal profession would be, that those who take the lead in the society should more habitually and constantly recognize, in the way that some of them from time to time do, the claims of the Associates to attention and consideration, and should include some of the Associates more frequently than has commonly been the case in committees, deputations and the like. We are not, in referring to this course, putting forward an imaginary grievance—and in acknowledging that this mode of palliating it, we are not suggesting an impossible or an unnecessary course—and in suggesting as we have done the possibility of combination and hostility, we are merely repeating what has been said scores of times already. Let us hope that the matter will receive proper attention from the proper quarter, and in the proper spirit.



## THE EXHIBITION BUILDING.

As the time approaches for the building to be delivered over to the Commissioners, all doubts as to the sufficiency of completion of the contract seems to vanish. We can estimate pretty fairly the ability of the contractors to do the little which remains to be done by the magnitude of the work now finished. A little rivalry between the respective superintendents of the eastern and western domes has put both gentlemen upon their mettle, and every nerve and sinew is tightened to the work. As far as we can see, little beyond the surrounding finish and the glass remains to be added to either of them. The ponderous ribs are fixed, and the ashes are in their places. We shall soon hear the last of the incessant humming of rivets, and be enabled, by the removal of the scaffolding, to get a proper view of the domes. The staircases are erected, although we fear there are not enough of them, in different parts of the building. The foundations are laid for the surrounding finish and the glass entrance archway. Scaffolding is only seen here and there in isolated patches against the exterior of the building. The "lengthened dulness long drawn out," which forms the Cromwell-road front, is revealed in all its painful baldness. One spark of ornament alone flickers along the dreary waste of piled bricks; and in noticing the iron ventilators over the windows, we feel very much as Garrick did when, sitting in the performance of a party of amateurs, he saw an actor—retained for a part too insignificant for the principals—step for a moment on the stage; "Thank God, there's an actor at last!" he exclaimed. So with the design of this ironwork. There is really some taste visible in it, but it is a very small lump to leaven so huge a mass—a "cup of sack thrown into Thames water."

The covering-in of the northern courts proceeds rapidly, and the rooms over the southern arcade of the Horticultural Society are roofed. The elevation of them is in unison with the architecture which they surmount. Each bay is divided into three semicircular openings. The view of them will be almost as pleasant a prospect as will be from them when the grounds are once again decked with summer flowers.

The great point of attraction to the visitors for the last fortnight has, however, been the nave, where various experiments in color have been exhibited, and certainly it has been a curious spectacle. The more ambitious amongst the amateurs of South Kensington have each fastened on a bay of the nave, and have introduced "color" in various ways. One gentleman covered his ribs with brown ochre, gashed with short stripes of a deeper tint, after the fashion of savages. Another introduces a German element, and reminds us of their striped blue and white sentry-boxes. In another bay we look upon blue ribs with white imposed ornament, and yellow columns with white chamfers. Another specimen—and this we believe, is the architect's—introduces the color of the "blue" of the sky, with the same fast color alternately with white in the ceiling. The best specimen, taken as simple decoration, is the contractor's, Mr. Kell's; it consists of pale green columns, with bright red chamfers; the ribs are buff, but the central of the five boards which constitute it is painted green, thus carrying the color over, and connecting the two sides. We don't, however, altogether like the treatment of the ornament on the different ribs, which is a different style of coloring scheme, however, to have satisfied no one except—as one of the papers remarked—their own respective authors. It strikes us that all the attempts have been made upon a wrong principle. The object in coloring a building of this kind ought to be to obtain a neutral and unobtrusive background for the objects exhibited in it, instead of which each decorator has seemingly striven to show his work, and to spread a reputation over the surface of the building.

We have been told over and over again that the building was never intended to be other than a useful one, and yet half-a-dozen or more gentlemen are permitted, we hope at their own expense, to display their peculiar erudition on a decoration, and thus to render it commonplace and themselves famous. Certainly, we hope it is likely to be so. One would have thought that the earliest plan would have been to have entrusted the design of the decoration to Mr. Owen Jones—who knows more about color than all the officials of South Kensington put together—with the task. Had this been done two months ago, the style would have been settled long ago, and the building would have been ready for its purpose. Its successful treatment of the interior of the 1851 building ought to have been sufficient to over-ride any jealousy about having an architect, even at this late hour, employed on the work; whereas the want of a competent man to do it, and the substitution of experimentalists, has caused already a very serious delay, for, until the nave is painted, the flooring cannot be laid; nor can, consequently, the goods be moved or, at any rate, the opening. The last experiment has been made by Mr. Crane. It is a fine bit of decoration. The polygonal form of the ribs is distinctly marked by alternate red and blue bands, with Pompeian ornament on it. At each angle, separating them, there is a small gilt circle. The caps of the columns are gilt, picked out with blue or red. The name of a country is written on the central blue band forming the cross of the ribs. The ceiling is painted grey, with red ornament on it, between the ribs, following the rake of the roof. A fringe of green and red is put on either side of the ridge-piece, and a somewhat similar band above the plates. But as the whole framework of the rib is not thus strongly painted, but as the polygonal portion, it gives a weak appearance to the rib, which it does not possess where the style is not used. However, this is a very costly—far more so, indeed, than is warranted by the architectural or the temporary character of the building—but it will attract the visitor's eye, instead of being a background for exhibited objects. It is a pure waste of money to gild such a structure as the Exhibition, for not all the gold in Australia can render it a work of art. The folly would only

be surprised by that of putting mosaics, as it is contemplated, on the black walls in Cromwell-road. No decorator should be suffered to color it who will not undertake to limit himself to the employment of three tints. If they will not suffice, it would be better to save time, labor, and money, and show it in its true colors to the world—a temporary, watertight shed, with a certain amount of simple beauty in its nave and transepts.

The picture gallery, which extends the whole length of the Cromwell-road, is awarded by the official admirer of the building and the crowd, connected with it—perhaps, without a rival in the world. It is lengthy, of sufficient width, and faultless in point of light. No pictures could be hung in a better gallery to display their qualities. We render to Captain Fowke this tribute of praise, because he has earned it; but we must also say that no gallery could, by hardly any possibility, be lighter. The best of pictures are like steel timbers in a crane, the color which connects the skylight with the walls is fearfully oppressive. If this were all, we should, for the sake of the main desideratum which Captain Fowke has given us, have been silent on the matter, thinking that economy and lack of funds had restrained his hand and limited the embellishment of his taste; but it could not have been a deficiency of pictorial means which inflicted on us that cumbersome cornice, or the still heavier plaster string which robs the gallery of a large portion of its apparent size. The bands round the doorways are effective, because nothing beyond the simplest forms has been attempted. It is consolatory, at all events, to know that the pictures will be seen, and seen, also, to the best advantage.

The eastern annex is more than thirty columns wide, and the connection is not broken to form a communication, under the entrance hall of the Horticultural grounds, with the main building. This communication will be by four arched galleries, each 10 feet wide, two for egress and two for ingress. The ribs of this annex are precisely similar to those of the western one, but the 50-foot galleries are arranged with an open court between them instead of being side by side as on the other side of the grounds.

## THE QUEEN'S CONCERT ROOMS, HANOVER SQUARE.

SHOES famous for the good quality of their wares, and places of public resort noted for the excellence of their entertainment, may for a long time have been costly and comfortable, but they have not, from the periodical necessity to inferior establishments. We get, through long associations, to like even the ugly attributes of the rooms of houses whereto we have been always well treated, as we do that of a familiar, although not handsome face, which, growing daily older, smiles with unvarying kindness upon us. Even the old-fashioned garments which keep a good house warm and comfortable, and which, when they are worn, are so sterling, we have a certain affection for the purse which has for years secured it to us. The plainness of the covering is certainly no sign of the goodness of the thing covered, but for its sake we look kindly upon it. What man that is "moved with concord of sweet sounds" ever passed the Hanover-square Rooms without bestowing a glance of grateful recognition upon the grimy brick walls, with which for years he has been surrounded, the richest wares of harmony? The numerous concert-rooms and music-halls which have sprung up in all parts of London, gladly as we welcome them, do not diminish our attachment to the old rooms. The Hanover-square Rooms contain, perhaps, the best concert-room in acoustic quality to be found in London, and thus still furnish the fittest home for the world-famous and unrivalled Philharmonic Band. The closest treat to all lovers of good music is partaken there. The Philharmonic was founded to lead public taste, not to follow the caprices of fashion. It has done noble work, but as great a career lies before it as that which has already given it renown. The rooms to which these concerts have given an enviable reputation, unable, however, any longer to do justice to the characters of the decorations, have been used for years to display attractions on their walls which they never before possessed, and which are commensurate with those found within them. They are now, we are informed on a printed bill, deemed suitable not only for concerts, but "balls, Sabbath services, bazaars, and the meetings of religious and other societies." The decorations are not considered as being adapted to its suitability to such varied and widely different purposes. It has been decorated as a concert-room. The walls bear in medallions, on a gold ground, the representations of eminent composers. Small bas-reliefs refer allegorically to the glories of instrumental and of vocal music. The larger spaces between the chandeliers are filled with large mirrors, and the panels are of a very deep color, with a gorgeous richness of color and gold, which tells immediately the object of the designer. The main walls are tinted a warm grey color, which forms a border to the pale green panels upon them. Small Cupids in oval panels decorate the lower portions of the room, whilst above we see the medallions of composers which we have already noticed. A bright red line on the gilt enriched edging of the panels is a very decided mark, and is most tastefully introduced. The skirting of the room is an imitation of various marbles. The pilasters and pilaster caps are profusely gilt, and the frieze is picked out with blue color to give effect to the festoons with which it is decorated. The general tint of the wagon-headed ceiling is a light green, similar to that of the wall panels. It is subdivided with gilt mouldings, and enriched with colored ornaments. The old pictures, which were removed on the ceiling, and massive frames enclose them. Their position has seemingly determined the shape and size of the ceiling panels. A band of blue color, with white trellis ornament, partly gilt, is carried at intervals across the ceiling, apparently to connect the color conspicuous in the frieze. Some well-designed surface ornament has been put upon the panels of the walls.

The orchestra is in its lower compartments faced with silvered glass, whilst above white and gold ornamental panels stand out sufficiently from the grey and green background.

The front of the Royal box and gallery is perhaps the best piece of design in the room. It is composed of small circles, most dexterously and artistically arranged. The outline of the front is an inverted ogee. It is fluted in white buff and gold. The Royal Arms are one mass of rich gilding. The whole of the carton pierre work has been done by Messrs. Jackson, of Hatfield-place. The room is at night well lighted by "gas burners" and reflecting silvered globes, put up by Illiett and Co., of Hatfield.

The buffet at the side is elegantly embellished. The upper-room below is painted in imitation of foreign marbles, with occasional patches of red and blue color behind the enrichments.

The whole of the decorations have been carried out by Mr. C. Smith, of Baker-street, from the designs and under the superintendence of Mr. Thomas Dyke, architect, of Marylebone-road.

#### SOCIETY OF FEMALE ARTISTS.

THE ladies of this society have the honor of inaugurating the most extraordinary picture season this country has yet known, for, in addition to the regularly established annals of home growth, we shall have, when the Great International Exhibition opens, examples by all the most eminent artists of whom the civilized world can boast. As foreign courts have the power of deciding at what period they will commence the history of art, the English school, beginning with Hogarth, will have to make a shock of arms, particularly when our painters of the present day encounter their contemporaries from the other side of the Channel, for which they will in all probability emerge sadder but wiser men. Let us, however, not anticipate defeat, but confine our thoughts to the subject immediately under consideration. The principal change in the present exhibition of the Society of Female Artists is a sensible reduction in the number of works exhibited, for there is now a plenty of wall-room above "the line," we think bad drawings or pictures would have been better than the old, dirty, and patched paper which is now, by that discriminating process, become prominent to the sight. We have a conviction, in which we are supported by the French, that it is both fair and beneficial to art that while space can be found every picture sent should be exhibited. By this arrangement, the crime of painting a bad picture receives immediate punishment by public exposure. This is far more convincing to the delinquent than rejection. The refusal to hang a picture implies a preference of others offensive to the self-esteem of the painter, but hang it up by the side of those preferred and he receives a silent censure, which lasts during the whole time it is exposed to public view, and if there is not a good deal in him, he wishes it to come along long before the time has expired. The exhibition of his picture also induces a young artist to take an interest in those by which it is surrounded, and he must improve by comparison, when his jealousy is not excited. He may hear his crude work criticised; he may see that it is constantly passed without attracting attention, and, hereafter, he may have the mortification of seeing his grand effort unceremoniously laughed at. If he is in nature to learn at all, he will then learn something greatly to his advantage. These remarks rest, however, upon the supposition of plenty of room, which happens to have been the case in the present exhibition, and we therefore think the number of pictures and drawings should not have been unnecessarily reduced through force of the fashionable notions of either the press or of visitors.

Taking things, however, as we find them, we think the general aspect of the room is more satisfactory than it was last year. Several of the former contributors are missing, and we particularly remarked the absence of Mrs. Murray, of Tenerife, whose dashing water-color drawings, which, if we could not always praise, gave a masculine feature to the gallery, by their powerful coloring and vigorous drawing, and the display of advantageous to artists whose feeble productions came into close comparison with them. The loss of this striking point has reduced the general aspect to a more equable character, but, at the same time, it cannot be denied, even if we wished it, that there are some very meritorious works, in nearly every branch of art.

The historical will be confined to a well-painted picture by Miss Kate Swift, entitled, "The Escape of Grotius from Leenstein." We think this lady has not given her title due consideration, because Grotius, her hero, is not visible, being concealed in the box carried away. Catalogue in hand, the present title may answer the purpose; but what will be understood by the picture, hereafter, when there is no explanation, must be left to the ingenuity of posterity. There is considerable dignity in the attitude of the lady ordering the box into the boat, and the whole of this figure is extremely well painted, but the rest of the figures are poor in comparison. "Give me a Hand," by the same artist, although unfinished, we like better. The outline of the female carrying a pail on her head is full and flowing, the folds of her dress are grouped in simple masses, and the head and extremities are extremely well understood. There is also some merit in "Peace likely to be Broken;" and the "Portrait of a Child" is painted with a full and firm pencil: all the features and undulations of the face are intelligibly expressed, but it seems to us that there was a strong indication of premature age in one so young, as if the photograph had done duty for the drawing, and the display of the lines describing the contour of the upper part of the head does not range with those which regulate the features and lower parts of the face. But the most ambitious attempt connected with the human form is a female head by Mrs. H. Moseley. The expression is most life-like and intellectual,

the drawing of the features is elevated and spiritual, and the coloring is judiciously subdued to give those high qualities to their due importance with the spectator. This excellent work is an imaginary head of Shakespeare's Miranda, from the "Tempest," and it expresses the wonder and delight of Miranda when she meets Fernando for the first time on the Enchanted Island. Next in degree of merit in figure painting is "The Absent Scholar," by Mdlle. Sophie Dubert. The three figures—the absent scholar, immersed in his book, holding a quill, and a glass of wine, the scholar, who is about to give him; but his duty to her master is somewhat retarded by his secretary, who is diverting her attention by a little flirtatious flirtation. The whole of this picture is in excellent tone, and the composition is generally well arranged, with the exception of the diagonal line formed by the table-cover, which is a spasmodic effort at ease which defeats the intention. Mrs. Backhouse continues to contribute her powerfully colored half-length subjects, which generally belong to the class now known as "servant-girls." One of these is entitled "Beginning Life"—a young aspirant for domestic honors or annoyances, as events may prove, who handles her first broom in a manner significantly suggestive of the probable mischief she will, in course of time, do with it. In the next picture we see her, after having been "A Year in Black," more cool and hardened to her diurnal deprivations, having taught her mistress the necessary powers of endurance by her having continued to remain in her place so long. Mrs. Backhouse exhibits several others, which display her power of drawing, and, in most instances, her habit of forcing her taste beyond the truth of nature.

There are several French female artists who regularly exhibit with those of this society. Mdlle. Endes de Guimard displays great versatility in the selection of her subjects and the management of their effects. "The School in Normandy" is a very talented production, in which the brightly luminous edgings on the figures of the female scholars, from a single window, are well sustained; the sombre tones of their dresses in shade, and the whole is thrown into breadth by the white cap and black gown of *la religieuse*, who is standing up giving them their lesson. "A Child Looking at Prints" is arranged on quite a different scale. The tone is cool and clear, the pencilling is very firm and distinct, and the whole effect fresh and bright. The minute detail of the latter picture is very likely one for the breeze and spirit in the larger work of "A Young Girl Carousing a Dove." It has a lively and playful action, and is in every respect very cleverly drawn and painted. "The Knitter" is by Madame Marie Chosson. The female figure in this picture has that easy attitude and evident power of mobility which distinguishes the French school in this branch of art. This admirable effect is produced by a simple and elegant arrangement of the accessories, and the delicate mode in which the outline is made to melt into space, which detaches the figure from the background, the same feeling being carried through the lesser divisions of the subject, which, instead of appearing fixed by strong outline and firm shadows, gives the appearance of freedom and motion. This ease of attitude will also be found in Madame Cossette's, by Anglique Haré, which is elegantly treated and delicately colored.

#### DRAINAGE IN IRELAND.

A MEETING of landed proprietors of the district affected by the drainage of Lough Corrib has taken place at Galway, and adopted resolutions in memorial to the Lords of the Treasury, expressing disapproval at the way in which the works of the Corporation performed the drainage. They are charged with the sum of £28,000, and interest at 4 per cent., and yet they say they are in a position to prove on oath, before any competent jury, that the lands charged with this sum of £28,000, or of memorialists, that the lands charged with this £28,000 have been rendered almost useless, and in several instances back-water has flowed over the lands hitherto dry, and the seed has been washed out of the land by the overflow of the lake, thereby rendering the water a total loss. That several of the memorialists, acting on the faith that the arterial drainage was perfected, had extensive drainage done on their estates, but, in consequence of the defect above complained of, their labor and capital are also lost. Therefore, they pray their lordships will immediately institute an inquiry into the truth of these allegations, and appoint an impartial engineer to examine into the condition of the lands, in order either to make the drainage effective, or to render the memorialists such other relief as the justice and fairness of the case demand.

#### THE DOCK WORKS, DUNDEE.

A NOTWIE disaster of a most serious nature has occurred at the New Dock. A worker, by which the east wall of the lock of Camperdown Dock has been ruined in a moment. After the failure in October last of the east wall of the dock, it was resolved by the trustees to exclude the sewage from the lock, pending the construction of a new sewer at the dock, and to erect a wall of concrete at its northern extremity; and a contract was concluded with Cartwright, Mitchell, and Co. to execute the work, and to pump out the sewerage from the lock, under the superintendence of Mr. Leslie and Mr. Stevenson. This work went on successfully until the cofferdam was completely engaged and the sewage almost pumped out, and operations were in progress for preparing to complete the masonry of the lock walls. No one about the works had the least suspicion of danger or risk. About a quarter to six, however, after the work of the day had ended, a disaster occurred, a great water alarm being by a loud noise caused by a discharge of sewage bursting from the bottom at a point to the southward of the lock. It was discovered that the wall was rent throughout its whole length, and the lock speedily filling with sewage.

The accident will be of the most serious consequence to the completion of the works.

• We will complete our notice of these works next week.

## THE PRINCE CONSORT'S MONUMENT.

THE nation, which a few weeks ago bowed itself down with grief at the loss of the Prince Consort, has now resolved, in calm, sober earnestness, becomingly to honor his memory. Meetings have been held in various places, and they prove the natural and complete unanimity of the people, who have only appreciated their loss and his worth when the active man is still, the warm heart, and the generous and liberal hand is closed in death. There will, we are confident, be no lack of means to rear a fitting monument and to express the country's gratitude. Our only fear is that the crowd of philanthropic gentlemen, each with his well-trained hobby, will ride rudely in and disturb the quiet character of our action. A man with a pet croquet is notoriously persevering; all other subjects are, in his mind, subservient to it; everything must be sacrificed to satisfy his appetite; no obstacle can check him—no argument can modify his ardor or bid the sense of its supreme importance. To this concentration of all his energies to the one point the hobby-rider owes, perhaps, his success—or, at all events, a greater portion of it. The very fact that the departed Prince aided the several institutions less than he believed that it occupied the most prominent place in his thoughts. Thus we have the promoters of soup kitchens, boulevards, model cottages, baths and wash-houses, industrial universities, lodging houses, and other, in themselves, unexceptionable establishments, anxious to make themselves a lasting monument by having the Prince's name and the money subscribed to do honor to his memory attached in perpetuity to the object of their solicitude.

We do not wish to utter a disparaging word of any of these institutions, but we protest against the Prince's monument being made a simple hoarding even for the display of philanthropic advertisements. There is a selfishness about the proceeding altogether incompatible with the spirit which ought to animate us. Even the specious plea of combining the useful with the monumental cannot be entertained. We do not want to make capital out of our loss, nor do we expect a profitable return for the payment of a debt of gratitude. Even the assertion by the indefatigable Mr. Cole, that versions of his scheme of an industrial university are known to exist, drawn up by the Prince himself, is a doubtful claim, does not reconcile us to it for this purpose. The same argument applies with equal force to anything else which the Prince was preparing before his fatal illness struck him. On its own merits, when it is fairly laid before us, just as we should have done if the Prince had lived to introduce it, we will hereafter consider the subject; but it is not the subject of the Prince's monument. A complete design, with contractor's estimate, may, for aught we know, be prepared at South Kensington; and the whole thing may some morning be presented, cut and dried, for public acceptance. Fortunately, we cannot again be forced by circumstances into acquiescence with these plans. We have had one example of the art-productions of that far famed institution.

The successful Exhibition proceedings will find no counterpart in the Prince's monument. To commemorate an art-patron we need the assistance of artists, of men who have something more than the Exhibition building and the praise of it to point to as the result of their working brains.

Against all useful schemes, of whatever kind, we strongly protest. They all have a party character about them which is incompatible with the object in view. A monument is the only memorial which will speak to all classes and to all generations; it is the only form in which the Prince and his actions could be made to fill the undivided thoughts of every spectator. We should, in looking upon it, dwell only on his good and serviceable life, on his wise and generous counsels, on the influence of his bright examples, on all, in fact, which appertained to him instead of having our reflections divided into other channels. The higher the art which may be developed in the monument the greater would be the pleasure felt by educated men who stand before it, whilst to the humble citizen of the England which he honored and enriched, it would tell its simple, unadorned tale. We would go even still further, and say that a plain granite slab with the name of Albert cut upon it would better commemorate his virtues than the most costly university which, under Mr. Cole's auspices, might be reared. In the one his merits would stand unobscured to the world, in the other they would be lost.

The philanthropic and industrial gentlemen are not, however, the only consequential intruders in this matter, whose services can easily be dispensed with. The old proposition for transporting Cleopatra's needle is again revived, and put forward as a fitting token of respect to England's Prince. If the obelisk had been worth transporting, and had been in any way equal to those in the Place de la Concorde, the "Isle of San Pietro," it would have been set up here in London long ago; but the truth is, neglect, time and weather have cut records on it which not even Champollion could decipher. It is a monolith of a certain antiquarian value, but, half buried on the sea shore of Alexandria, it interests more people than it would in England. As a monument to a Christian prince, its hieroglyphics are an absurdity; it would be as sensible to set up an Assyrian bull or a statue of Vishnu. Less inappropriate, but belonging to the same class of suggestions, is that for carrying out Mr. Scott's Crimean memorial. The cross we can fully believe was well and artistically designed, but it was designed for an expressly different purpose than that for which we now desire a monument. It was appropriate to the Guards who fell for their country, it was consequently a military monument; their martial deeds formed its especial characteristics, and a war-inspiring sentiment pervaded it. The fact of its successful treatment forms the insupportable objection to its fitness for the present sad occasion. The circumstance strongly urged, of its being admired by

the Prince Consort, adds nothing to the value of the suggestion, but rather strengthens the opposition to it. We want, in short, no ready-made monuments for the Prince laid upon us, not even that of the bareheaded Mr. Keyes, whose grand military and naval trophy with Corinthian caps and gorgeous compositions, excites his own admiration and stimulates his subservience towards the Government to such an extent that he only inspects his work, but subscribe a million and a half for the fulfilment of his intentions. The "building of the trophy will be constructed," we are told, on a novel principle. We cannot but consider this highly probable, when the projector constitutes in himself architect, builder and banker. As we read mud from a glass, one would suppose such an intruder from selection of the Prince Albert's monument. We never heard of him before now, and we do not care to meet with his name again.

The London and Manchester Committee have done well in confining themselves to the simple resolution that the tribute to the Prince's memory shall be monumental, and in deferring future considerations as to details. This is as it should be. Artists and sculptors are the proper persons to show us what an original monument might be to. They neither need to be told what it should express any more than they require to be informed upon its posture. It is their business to embody in bronze or marble the character of the man, to make it express his various excellencies, to depict through his domestic solitudes, his social gatherings, and his cultivated and public acts; to portray to future ages how he employed his great talents unostentatiously, yet wisely, for England's welfare by fostering agriculture, promoting education, encouraging the arts, and extending a friendly hand to the suffering poor. The less our sculptors are fettered, the more satisfactory will the monument be, and that we should have any worthy of the deceased Prince is the worst of all, it would be as unbecoming for statesmen and divines dogmatically to dictate details to artists as for the latter to attempt to influence the formation of a sermon or a foreign policy. All we demand is a fair field for the exercise of our sculptors' talent, and that bustling activity and intrusive impudence shall not be heffered to thrust themselves forward and snatch the honor of executing the work from competent hands.

The idea elicited at Manchester of a temple containing a statue was perhaps the happiest which the melancholy circumstances have yet occasioned. The temple would, of course, be detached; its interior might be adorned with bas-reliefs or paintings; the floor, walls, and ceiling, would allow of large space for decoration; the openings, glazed with plate glass, might permit the ordinary passer-by to see the white marble statue in the centre, protected from the dust, rain, and soot of our London streets, whilst, under proper regulations, the public might be admitted to enter and look upon the detailed records of the Prince's goodness and of the service which he rendered to us.

This one idea has many ideas published, and it strikes us as the best. It would be appropriate, and put forth, without authority or "permission of the Lord President"; it kindles no suspicious motive that the Prince Consort's memory would be submerged by other interests. It was meant as a hint to guide our artists, not as a manacle to bind them. It tends to expand rather than to limit their powers. It is a suggestion which, in keeping all extraneous, selfish, and party predilections from snilying with private schemes the purity of motive and the hearty earnestness which are the corner stones upon which the "Albert Monument" ought to rest.

## SALISBURY CATHEDRAL.

WORKMEN have been busily engaged for some days past in erecting a scaffolding between the four piers which support the tower and spire of Salisbury Cathedral, for the purpose of enabling Mr. G. G. Scott to thoroughly examine the state of the structure, and to make such repairs as may be required, and repairing and strengthening it. It appears from a recent order of Her Majesty's Council, ratifying a scheme for the transfer of certain estates belonging to the Dean and Chapter of Salisbury to the Ecclesiastical Commissioners for England, and that by resolution of the same authority, the Ecclesiastical Commissioners, in preparation in times past, it has become necessary to expend therein in repairs and in effecting improvements conducive to the security of the fabric, a sum of money amounting to £10,000 or thereabouts, and that this sum, together with interest at the rate of 2½ per cent. per annum, should be paid out of the fund forthwith to be provided and expended by the Commissioners in effecting such repairs and improvements, under the superintendence of and according to plans and specifications to be prepared by the architect of the said Dean and Chapter, as may be deemed necessary. It may not be generally known that the spire has for years past been some 22 inches out of perpendicular. The tower and spire, it will be remembered, were not a part of the design when the edifice was first built. It is thought that their erection was the "improvement" for which the money was used. The sum was used by the Dean and Chapter, and granted by Edward III. to Bishop Wyvil and the Dean and Chapter in 1351.

SUGGESTED PATENT MEEHAN AND LIBRARY.—According to the report of the Commissioners of Patents, the net collection of the net amount of income over expenditure amounting to £20,000 per annum. The Commissioners recommend that that surplus should be applied for the benefit of patents, by erecting a patent-office, with a museum and library attached.

THE DEPT. OF MINES IN ENGLAND.—The *London Journal* says:—The deepest mines in England are the Ashley Deep Pit, near Dukinfield, and are 660 yards in perpendicular depth.

SADLER'S WELLS THEATRE.—The fifty years' lease of Sadler's Wells Theatre, and the date on which it stands has been a mooted point. If it was particulars stated that it is subject to a ground-rent of £277 per annum; and is let to Mr. Phelps for £1,000 a year for seven years, from Ladyday, 1860.

\* Since this was written we have received a letter from J. C. almost to the same effect.

# ON THE ESSENTIALS OF A HEALTHY DWELLING AND THE EXTENSION OF ITS BENEFITS TO THE LABORING POPULATION.\*

The second branch of my subject—the extension of the benefits of a healthy dwelling to the laboring population—now demands our attention.

The numerous discussions bearing on this question which have taken place in Parliament, in the daily papers, as well as in other periodicals, and pamphlets, have led to the conviction that the subject is not only taken by the public; but those who have sounded the depth and scanned the wide-spread extent of the evil to be remedied well know that such is not the case, and have too often seen the responsibility of contributing to its removal ignored by those who ought to feel its weight, while some have been ready to regard the want of a due estimate of the difficulties to be overcome, and of the requisite practical knowledge, has led to the pursuit of measures which, owing to their non-remunerative pecuniary results, have tended seriously to retard the progress of improvement, especially in the last few years.

The pecuniary features of the question are of such vital importance, from their necessary bearing on the adequate extension of the work, that I cannot here omit the expression of my belief that if the actual expenditure in providing improved dwellings for the laboring classes in towns be more generally well managed with such discretion as to yield the very moderate return of 4 per cent. or even of 5½ per cent., after the payment of all expenses and the providing a sinking fund for the repayment of the money laid out, there would have been no difficulty in procuring from philanthropic capitalists an amount sufficient for building a very large number of improved dwellings, and in evidence that such a return is obtainable numerous examples might be instanced of that and a higher rate of interest on the outlay having been regularly obtained. Whilst some of these will be better known to the public, I will here mention a few in certain exceptional cases, that due allowance should be made for the difficulties and extra expenses attendant on most new undertakings, as well as for the experimental nature of some of the establishments in which the accommodation provided has been of a very inferior kind. The results in these instances showing, I believe, invariably, that new houses for families yield a better return on the outlay than lodging houses for single persons, a purpose to which, however, old buildings have been adapted with very satisfactory pecuniary results. In speculative building, or those cases in which the investment is called a good investment, more or less, of course, consider 4 per cent. a sufficiently remunerative return; but I confess to feeling some surprise that, amongst the many who have accumulated large fortunes in connection with the building trade in the metropolis, I know of only one instance, that of Messrs. Cross, in which so much as 4 per cent. of the gains derived, in a large measure, from the labor of the working classes. It may, however, be owing to my limited means of information in this respect that I am unable to name other instances in the metropolis, or those in Edinburgh, where such cases might be pointed out. In fact, I could not but regard with peculiar interest and as well worthy of imitation. Some notice of these buildings is given in my report made at the Glasgow meeting for the promotion of social science. I have also seen with pleasure, in a very recent monthly paper, which I have not time to cite, a description of one amongst that class of readers, a view and brief notice of a village near Lowestoft rebuilt by Sir Morton Peto, which is described as one of the most picturesque villages in the kingdom.

Architects are sometimes being reproached for a want of interest and for exercising so little influence in regard to the improvement of the dwellings of the laboring classes. Knowing, as I well do, how rarely the members of the profession have to do with buildings of this class, such a charge is to me only one amongst many other proofs of the prevailing ignorance with regard to the measures and machinery best adapted to remedy the evil in question, and which I shall endeavor, as far as my ability and experience enable me, to point out, unbiassed by any interest whatever, and only actuated by the earnest desire of contributing to an object which I believe is most intimately connected with the physical, the moral, and the religious improvement of the masses of our population.

The measures for effecting this much-needed reform may be classified under three heads:—

1. Those of a legislative character, and those for which the Executive Government are responsible.
2. Those which ought to be adopted by landlords and employers generally for the benefit of their dependants, whether as tenants or workpeople constantly employed by them.
3. Those which originate from benevolent motives, and are undertaken either by associations or by individuals in order to aid in helping themselves those who need such aid.

In noticing successively these three classes of measures, some illustrative facts will be stated, which are partially the results of observations made during a residence of nearly five years on the Continent for the recovery of health. Some of the investigations then made led me to remark and find opportunity in the following measures, that a jealous respect for the rights of persons and property, which is our security for many of the inestimable advantages enjoyed under a free government, has a manifest tendency to impede the carrying out of such public improvements as those which, under the name of sanitary reform, are being carried out rapidly, on so gigantic a scale, in the metropolis of a neighboring country. What I think, in our own metropolis, we have a right to complain of, and ought to feel ashamed at, is the bungling and pettifogging manner in which many of our new houses have been formed and fine opportunities to the first classing magnificent effects irreversibly lost. It would be invidious to point them out; they will readily suggest themselves to you.

Time will not allow me to dwell on the important bearing which the question of new streets has on many facts which have come under my own observation might be stated, particularly some with regard to that great financial failure, Victoria-street, where several fruitless attempts were made to obtain from the managers, on reasonable terms, back the sites of the dwellings adjacent to the street, which, in consequence of the clearance which had been made, were huddled together in a frightful degree. This is but one example of what has so frequently taken place elsewhere in our own metropolis, owing to the want of a compulsory power for the displaced poor to be applied to the Government. The Government was the cause of an incalculable amount of suffering in Paris, when the

people who tenanted its narrow and winding streets were forcibly ejected, and often their few articles of furniture placed on the pavé, they themselves not knowing where to seek shelter. I visited more than once, in the spring of 1858, a kind of encampment of 600 such families, formed not far from the Barrier de l'Etoile and heard of the number of them who were to be transferred to the city, where they were paying for temporary hovels, which the police had warned them would be pulled down in three months, and they forced again to go, they knew not whither. From a sense of duty, and encouraged by the fact of the Emperor having caused the paper which I read before the Institute in 1856 to be translated into French, and circulated in France, I thought it right to bring this subject under His Majesty's personal consideration, in a memorial, which was graciously received, and, I hope, has not been altogether fruitless.

On the subject of measures tending to give to the laboring population the benefits of a healthy dwelling, only comprised, when I addressed the Institute twelve years since, the passing of the Public Health Act, and the Nuisance Removal and Diseases Prevention Acts. Since then several measures, the necessity of which I have no need to repeat, have been introduced, and the removal of the tax on windows and on bricks, for both of which we are indebted to the Administration under Lord John, now the Earl Russell; the regulation of common lodging-houses (one of the most, amongst the many, valuable efforts of Lord Shaftesbury in this cause); the empowering, in 1856, the Laborers' Dwelling Act, the formation and general management of independent local associations, formed for providing improved dwellings, on the principle of joint-stock companies, with limited liability. Other bills have been passed for facilitating the construction of improved laborers' dwellings and cottages in Scotland and in Ireland; but, during the last session, a bill which would have given to English landowners, tenants in tail, the power of raising money for building improved cottages on their estates, very similar to that already granted in Scotland, was introduced by the House of Commons, and was twice rejected by a majority of 16 to 33 in the House of Lords, at the close of a debate which had at least the appearance of showing how much less real interest is taken in this question than might have been inferred from several debates, at the opening of which I read before the Institute the necessity of the measures consequent on the introduction of railways to the centre of the metropolis. Those debates led to the insertion of clauses in some of the railway bills obliging the companies to provide certain cheap trains, at hours suitable for the convenience of working people, and from the precincts of their residences out to town. A standing order, intended to apply to cases in which Parliament granted power to pull down houses occupied by the working population, was passed by the House of Lords in 1853, at the instigation of the Earl of Shaftesbury, but, as far as practical effect, it has done little.

That further legislative interference is indispensable to the remedying existing evils might be proved by abundant evidence. Excepting within the City of London, and in the case of common lodging-houses, no power has yet been granted to the local authorities to check the evil of overcrowding in dwellings, the Medical Officer of Health in the City of London thus speaks:—"Without doubt it is the worst of all the unwholesome influences with which you have to deal; and until it is corrected you will never be secure from those outbreaks of disease which are so common in our metropolis." Another instance is reported made by the Assistant-Commissioner of Police on the condition of single rooms occupied by families in the metropolis, without the precincts of the city authorities, after giving in detail about forty cases, most of which were of a very serious character, and says:—"I think that the cases which might be greatly multiplied, that all the evils which the Acts for regulating common lodging-houses were intended to remedy still exist, almost without abatement, in single rooms occupied by families, single rooms, and in some cases, in the case of the Act of 1853, in the case of the advance of owners and the poverty or despatchment of occupants, and the only hope of improvement seems to be in some legislative enactment."

In regard to the overcrowding of cottages in country districts, I might remind you of the numerous letters on that subject which not long since appeared in the Times, and were but the echo of what has been said and proved so often, elsewhere. It was with a view to obtain reliable statistical returns on this important subject that the then Secretary of State for the Home Department was requested, eighteen months since, and urged by a deputation from the Council of the National Association for Social Science, to take advantage of the recent Census for this purpose; but, notwithstanding the unobjectionable character of the inquiry, and the ease with which it could be made, were fully adopted, the application has not yet been proved for.

After all that has been done within the past fifteen years by many proprietors in providing improved cottages on their estates, there are yet numbers who need to be made aware of facts which exist on their own property, and there is reason to fear that, with regard to others, their obligations are not generally understood. In the case of the duties which would be imposed on the Registrar-General enabled to instance flagrant cases of neglect, and to show what the results are by unquestionable facts. I cannot help, therefore, regarding the loss of this opportunity as a matter for very serious regret, especially in view of the fact that the title of the petitioners do directly lead to the necessity of the remedial reform, so greatly needed amongst the masses of the population.

By legislative enactments can also be prevented the recurrence of those hardships and other great evils which have been so often the result of the system pursued by the owners of the estates, and by the landlords, who have been pulled down in order to obtain relief from a burthen which is thereby thrown upon a neighboring parish, regardless of the sufferings endured by the laborer, who is often, as a consequence, compelled to walk several miles to his new home, in the absence of the means of transport from the old one. The waste of valuable time and strength thus expended was made by the late Sir Robert Peel; and yet, how many who have laborers in their constant employ need to be convinced that it is as much their interest to care for them in regard to the health of the family as it is to provide well-arranged and comfortable dwellings for their cattle?

The only other legislative measure which I shall point out as being especially

\* The power referred to was conferred in 1851, and under the supervision of the able medical officer of health it is exercised with the greatest care and with the most judicious measures, abundantly proved.

A system of registration of the actual condition and extent of accommodation in existing cottages has been suggested by Dr. H. Acland, of Oxford, which, if generally adopted by proprietors, would, doubtless, elicit some very startling facts. Mr. Parker, of Oxford, will supply those forms of registration on the receipt of a postage-stamp.

needed, is one that would operate generally to prevent the building of small houses on undrained ground, and with proper sanitary arrangements; such a fruitful source of sickness and consequent expense to the public ought, without doubt, to be entirely interdicted. It is an evil, the extent or the magnitude of which, it would be difficult to estimate with accuracy.

As bearing on the subject of the matter which has been referred to, I may quote the words used two years since by a right hon. gentleman, the present First Commissioner of Works—"As yet the necessity of protecting life from the influence of poisonous dwellings has not practically been acknowledged, though the principle is the simplest and the most obvious."

It is unnecessary to occupy your time at any length with what has been done for the object under consideration by the Governments of other countries; that of Belgium has been aided therein by the assiduous efforts of M. Ducrest, and in numerous other countries which I cannot attempt to mention, if not followed. In some of them the pleasure has been afforded me of tracing the results of my own labors in this case, abroad as well as at home, rendered in the former case mainly through personal intercourse and the circulation of translated papers.

2. In noticing the measures which ought to be adopted by *landowners and employers generally* for the benefit of their dependents, such as tenants, or workpeople in their constant employ, I feel that a quotation from the letter of the late Duke of Bedford, given at length in my former paper, is the best reply which can be made to the excuses of many for their neglect of duty in this respect—"Cottage building, except to a cottage speculator, who exerts immoderate rents for scanty and defective habitations, is, we all know, a bad investment of money; and this is not the light in which it should be viewed by landlords, from whom it is surely not too much to expect that whilst they are building and improving farm houses, homesteads, and cattle sheds, they will also build and improve dwellings for their laborers in sufficient number to meet the demand, and by improving cultivation of the soil to improve the dwellings of the laboring classes, and afford them the means of greater cleanliness, health, and comfort in their own homes; to extend education, and thus raise the social and moral habits of those most valuable members of the community, are among the first duties, and ought to be among the truest pleasures of every landlord."

The example which was set by his Grace in the building and improving the cottages on his estates in seven different counties involved, in the course of eight or ten years, an outlay of upwards of £70,000. Another instance of princely expenditure on the same object is that of the Duke of Northumberland, which has been estimated at £100,000. The average cost of the cottages built by these two noblemen may be stated at from £30 to £120 each.

The question of a *remunerative return* on the outlay in building cottages in agricultural districts is one which impinges so closely on that of the rate of wages, that I shall not venture on its discussion. It would be hopeless to argue this point with those who think that wages of 8s. to 9s. per week can properly maintain a working man and his family, and who will pay the rent of a healthy dwelling. The greatly increased property of agriculture, such a rate of wages appears to me unaccountable, and altogether at variance with equity and sound policy.

The efforts made by some of our great manufacturers for the benefit of their workpeople have been of great importance. My former paper contains a list of the mines, quarries, and works of various kinds, can bear testimony to the great benefits resulting from their expenditure in providing proper dwellings for the laborers in their employ.

The same has been the case with reference to the cottages built in considerable numbers by several of the leading railway companies. The secretaries of some of them, in speaking on the subject, have referred particularly to the great advantage of having the men ready at hand, in case of need, and removed from the temptation provided by the low rate of wages. The other is the result of a principle in regard to the Police force, and, taking the idea originally from the model lodging-houses, barracks have been built, generally for those of them who are unmarried—a good precedent, which might, doubtless, be adopted in many other instances with much advantage to both employers and employed. In such cases a sufficiently remunerative rent can generally be charged, and its payment guaranteed by a deduction from the wages.

On the Continent, our example has in this respect been much followed. At the Paris Exhibition, 1855, there were many instances of the principle being acted by their employers. In two of them particularly, the leading features of the Prince Consort's Exhibition Model Houses were strongly marked. One, constructed in 1850, at Hourtou, provides accommodation for four families on the ground floor, and for twenty single men on the first floor. The other is the Cité Ouvrière des Verriers, at Ecaupont, near Valenciennes, which comprises, in a central building, schools and other apartments used in common, with some of the dwelling-houses, but the latter are chiefly contained in two detached blocks, forming the sides of a hollow square. The other is the Cité Ouvrière des Verriers, at Ecaupont, near Valenciennes, which comprises, in a central building, schools and other apartments used in common, with some of the dwelling-houses, but the latter are chiefly contained in two detached blocks, forming the sides of a hollow square. The other is the Cité Ouvrière des Verriers, at Ecaupont, near Valenciennes, which comprises, in a central building, schools and other apartments used in common, with some of the dwelling-houses, but the latter are chiefly contained in two detached blocks, forming the sides of a hollow square.

where the idea of constructing a Cité Ouvrière originated in the receipt of a translation of my former lecture, sent by order of the Emperor. It was commenced in 1855 by an association of manufacturers, headed by M. Jean Dollfus, and was a scale model of the Cité Ouvrière of the same similar establishment in France. A spacious road, planned on either side, runs between the main groups of cottages, and parallel roads run behind them. The houses are chiefly arranged in detached blocks of four dwellings each, placed in the centre of a square plot of a square plot of a square plot, which is enclosed by a wall; two of these dwellings form the main central road, and the two the minor or back road—an economical arrangement in regard to cost of construction, as one which admits of good internal ventilation, though not so perfect as when houses are built in pairs. The houses are built in pairs, and in such cases, being partitioned off from the living-room, it forms a small separate room. There are, besides these, several rows of double houses, built back to back, each having a narrow strip of garden-ground; their arrangement cannot be considered as unimproving.

The Great Northern has built 150 cottages at their station, near Peterborough, and the British Company has built and acquired nearly 400 cottages for their men.

ventilation, and the general appearance of the tenants indicated a decidedly inferior class of occupants, with want of cleanliness, and property in the summer of 1860 there were completed 480 houses, two-thirds of which had been sold to the occupiers, and 90 more were in the course of construction, land having been bought for more in the whole. Baths, a wash-house, and a bake-house, as well as a kitchen, and a refectory, were erected on the premises. In 1859, when opened when I visited the Cité in 1859; since which have been added a reading-room, a school, a lodging-house for unmarried men, and one for men on the tramp.

The outlay on the roads, fencing and planting, was defrayed out of a Government subvention of 300,000 francs, or £12,000, being a part of 10,000,000 francs appropriated to such purposes by the Emperor, with a view to stimulate the work in France. The tenants have the option of purchasing the houses by the gradual payment of a small cost per year, and the remainder on the 1st of January, not two-thirds of them have done so, to the very marked benefit of themselves and families, and with the further good result of providing the funds necessary for maintaining the buildings, without increase of capital on the part of the projectors, to whom, as well as to M. Emile Muller, of Paris, from whose plans and under whose direction they were built, the greatest credit is due.

I have thought that these details may be useful, and, perhaps, suggestive, with reference to schemes already projected for building workmen's dwellings in large numbers, as well as to those of our own metropolis, with a view to the occupants being conveyed to and from by cheap railway trains. With the same object I notice having seen near Paris an entire village, then all but completed, which had been built by the aid of his workpeople. It comprises wooden houses, or chalets, for 76 families, 24 streets, 46 streets, 46 streets, 46 streets, 46 streets, each occupying a separate tenement, and having two, three, or four rooms. There are two spacious workshops, and although some defects might easily be pointed out, the air of cleanliness and order gives the whole a very pleasing effect. Here the work, which is sold in the very heart of the city, and has hitherto been done by workmen residing with their families in miserable, unwholesome, and, at the same time, high-rented dwellings, will be done under the advantage of abundant fresh air, greatly to the advantage of the consumer, the employer, and the employed, as well as of the pockets of those who have generally to bear the burden of supporting the working man and his dependents in case of sickness.

It would be easy for me to illustrate by many other examples, at home and abroad, the practical recognition by those who have working people in their regular and exclusive employ, of an obligation to see that they are properly housed, and, at the same time, to show the benefits resulting therefrom to both parties. But other measures have yet to be noticed, which will be grouped under the last head, viz.—

3. Those which originate from benevolent motives, and are undertaken either by Associations or by individuals, in order to aid in helping themselves to the means of improvement, and to the improvement of the community. The threopile individuals of two associations, one of which commenced in 1844 and the other in 1845, the building of improved or model dwellings for the working classes in the Metropolis. Highly beneficial as these societies have unquestionably been to the community, and to the improvement of the community, in the course of them, confirmed the opinion I held when undertaking, in 1844, the duties of its honorary architect, that it should aim at doing a little and doing it well, so as to be in deed, and not in name only, a model society, rather than attempt to do too much, and to do it badly. It is true, that the societies have been successful, with such results as would commend it for imitation. The society to which I refer is that for Improving the Condition of the Laboring Classes, which has constructed under my direction four distinct ranges of new buildings, accommodating 97 families, and 100 single men. The number of families collected in these, as well as lodgings for 104 single men, and a public wash-house with baths. Whilst in three distinct localities, old houses were renovated and fitted to provide lodging for 158 single men. The expenditure on these several dwellings and lodging-houses was £26,465 10s. 11d., and they have all been in full occupation since 1851. Subsequent to 1853, when I went on the Continent, three entire courses in different localities were taken, and the condition of the houses, which, in two of them, were indifferently filthy, and occupied by the lowest class of tenants, was completely renovated. The number of families collected in these courses is 275, and there is also a single men's lodging-house with 40 beds. The total outlay on these three courses has been £7,296 1s. 7d., and the net return for the year 1860, after deducting all expenses and repairs, was £240 18s. 11d., or 31 per cent. whilst from the Society's new building in

The expenses and expenses of the different buildings, exclusive of that in Portpool, amount to £1,040 18s. 11d., or 31 per cent. whilst from the Society's new building in

Receipts £275 7 10  
Expenses 82 6 9

Receipts 200 0 10  
Expenses 224 7 4

Receipts 499 9 3  
Expenses 406 6 8

Receipts 312 4 2  
Expenses 285 4 2

Receipts 146 11 2  
Expenses 75 12 13

Receipts 118 9 8  
Expenses 75 12 13

The rents received from these houses have varied but slightly since they were opened up to the present time, and they are generally well paid, the families occupying the houses. The cost of repairs is not included in the expenses above stated; they should be included on new, and especially on old, houses, which is the case in the case of the latter. This return, though a considerable increase on that of the previous year, is not encouraging, the property being old and leasehold, and no provision for a sinking fund having been made.





a great classic character, and most carefully and elaborately executed, and with a manual dexterity and precision which seem hardly good practice in such work. The great labyrinthine fret occurs in almost every part, and those intersecting patterns that stamp a peculiar character on the art of ornamental design in this Byzantine style occur in these terminations in almost profusion. Whether accompanying the classic tracillations in Ireland, in Norway, or elsewhere, or whether seen carved in stone in the earliest Christian buildings of Lombardy, or worked in mosaic on the walls of Greek churches, or depicted upon the vellum in these beautiful manuscripts now under our consideration, there is a similarity of design and a general agreement in the manner of treatment which is certainly well worthy of observation. What is especially interesting in this curious class of ornament is, that it is not, apparently, derived from or suggested by any similar ornament in the preceding Classic school. Could it have been traced back to ancient Rome, we should not have been surprised at its occurrence in localities so widely apart, and in styles of design so widely differing; but nothing, as far as I know, occurs in Roman art from whence those intricate Interlacings could have been derived—indeed, indeed, we may suppose that the *rudolph* was the parent of this ornament, which would, in any case, take back the idea to Athens itself, and to how much remote a period I know not. Even Assyrian art is not without traces of it.

Whether or not derived or whether it was the original product of a Teutonic or a Byzantine mind, certainly its wide prevalence is remarkable. It seems not unlikely that the facilities which these interlaced ornaments afforded of producing the device of a knot having no ends, would recommend it to the favour of early Christian artists as an emblem of eternity, as well as of brotherhood. But whatever its origin, the idea was certainly most prolific. Besides being productive of a variety of more ornaments, such as we see on this MS. of the time of 'charlemagne, it suggested no doubt the monsters devouring their own tails, which we so commonly portrayed in medieval sculpture; and the true lovers' knots depicted in a thousand familiar, although unmeaning, shapes on our walls and ceilings down to the time of Elizabeth, and, for aught I know, to the present day.

Time warns me that I must not, this evening, introduce to your notice any more of the literary and artistic treasures stored up in our magnificent national collection, as well aware of the very superficial nature of those few slight notices; they present to you but the faintest glimpse of the almost endless store that the liberality of our country has been enabled to accumulate under the guidance and with the assistance of her best scholars. In calling your attention to the few books which I have named, I am, I fear, subjecting myself to the sarcasm of the old Greek author who tells us of a certain "lethologica," who, in the distress of recommending a house to the favor of his friends, carried about with him a book or two by way of specimen of the entire mansion. Yet scanty and very inadequate as the samples may be which I have here presented to your notice, I believe that I have no belief that for my few remarks and criticisms will not have been made in vain, if they have produced in your mind a desire to seek for further satisfaction at the fountain heads; to consult them for yourselves, and to liberate and enlarge your studies by a wider field of investigation.

A careful contemplative study of the causes of the almost awful sublimity of the Colosseum, for example, in comparison with the grandeur of the Parthenon, would, in every manner, and to elevate the artistic tendencies of the mind; and to teach us that the grandest effects in our art are far more readily attainable by simple general forms, than by resorting to the complicated and the elaborate. (I am, I repeat, subjecting myself to what I am permitted to say) is one of the least commendable tendencies of the present day, and against which it would be well that you should be on your guard.

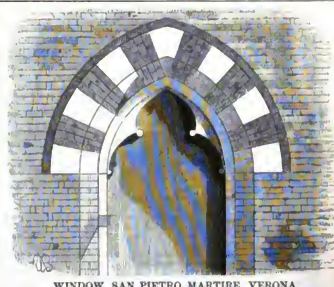
Then, again, the critical examination of the interesting phenomena of the age of the Renaissance in France—an examination so greatly facilitated by the two beautiful volumes of Catherine de Medici, which I have been advertising to—is well calculated to fertilize the mind of a young architect, and to enable him to see the combination of two very different kinds of beauty is capable, in the alchemy of genius, of being made to produce still another beauty—a beauty derived—differing very materially from its two components, yet partaking of the merits of both.

Such an examination would, furthermore, satisfy him that it was no more love of innovation, no mere freak of fashion, that led our forefathers to lay aside in their architecture the stern and rigid air of mediævalism. They abandoned methods and theory in their windows, and made them wide and square and open—not in sport and for the sake of a frivolous change, but because they saw that the new style was more adapted to the value of light and air, and because they began to perceive that there were other means of exciting an energy and securing their personal safety and an inviolate health, besides enveloping and shutting out the elements. As inquiry into these great changes in their habits of building is a curious and not an unprofitable inquiry. It is common enough to hear it said that the revival of a taste for classical literature led to the study and subsequent adoption of classical architecture. Whereas the revival, even, in truth, strictly contemplated, and it is by no means improbable that they may be regarded, not as one being consequent on the other, but that both were necessary results of a common cause—namely, the advance of civilisation, involving the acquirement of new habits and new wants.

The other volumes of which I have this evening made mention have an antiquarian rather than a practical value, and to that extent are, no doubt, less suitable subjects for me to urge on your attention here. Yet those manuscripts are samples of a great store of similar works which your national library may be justly proud to possess, and which whilst they are of the highest literary and historical value, must ever be precious also in the eyes of artists, inasmuch as the illuminations which adorn their pages represent faithfully the condition of the fine arts during the mediæval period, and, as it were, the golden link that connects the ancient with the modern schools of Painting and Design.

**ACCIDENTS ON FRENCH RAILWAYS.**—We find the following in the *Revue Contemporaine*:—"On the Northern, Strasbourg, Western, Orleans, and Mediterranean lines of railway, 3,150 trains run every day, and the distance pre-travelled is altogether 102,000 miles (five-eighths of a million). In 1859, the total of 777,450 trains, and more than 70,000,000 of kilometres in the year. The number of passengers conveyed on those lines in the years from 1850 to 1860 was about £210,000,000, and during that period the loss of life by accidents was 44, or one out of 7,000,000. Does there exist a human material that those material forces are used in the midst of difficult circumstances, and with the co-operation of such a considerable number of men, which would engage not to make a greater number of victims? The above figures, taken from official sources, have an authority which cannot be easily denied, and upon which the most cautious and too lightly brought cannot prevail. What additional force do not these calculations acquire when they are compared with the number of carriage accidents which take place in our year in the public thoroughfares of Paris alone? In 1860, for instance, the official statistics inform us that the casualties, taken from 1850 to 1860, which occasioned the death of 30 persons, and serious injuries to 570 others. Thus the circulation of carriages in Paris has led to almost as many violent deaths in one year as the circulation of the French railways in ten years."

**BERRON'S WATCHES AND GLOCKS.**—"Perfection of mechanism."—*Morning Post*, Gold watches 5 to 100 guineas; silver watches, 2 to 50 guineas. Benson's new Illustrated Pamphlet, free for two stamps, descriptive of every construction of watch, enables persons to find the way of the world to select with the greatest certainty the watch best adapted to their use. Watches sent free on receipt of a remittance. J. W. BERRON, 33 and 34, Ludgate-hill, 66 and 67, Cornhill, London, E.C. Established 1749.



WINDOW, SAN PIETRO MARTIRE, VERONA.

THIS little chapel of San Pietro Martire, now used as a college, contains many architectural gems, one of which, a window-head, we have engraved. It is very simple, but none the less beautiful. The window is made of brick and marble. The section of the jamb is hardly more than a play. The trefoil in the arch, cut out of a single block, is a charming bit of design, and gives a degree of richness of effect that five times the amount of carving would not necessarily procure for it. The height of the window is about 14 feet, and the width, as nearly as we can reconstruct, about 2 feet 6 inches. Adjoining it there is a circular window, designed with equal skill, and over the entrance is the well-known canopy tomb of G. da Castelbarco. The date of the window is the first half of the fourteenth century.

#### SOUTH PORCH OF ST. GUDULE, BRUSSELS.

DEDICATED originally to the Saints Michel and Gudule, this collegiate church is now better known as St. Gudule. It is situated on the Grand place once called Molenberg, and was founded in 1010. The choir and transept were completed about 1370, the nave in the fourteenth century, and the western towers soon after 1500. Many alterations have, however, been effected since that time. The north and south windows of transept—the latter is shown in our illustration—date 1557. The precise date of the south porch is not recorded.

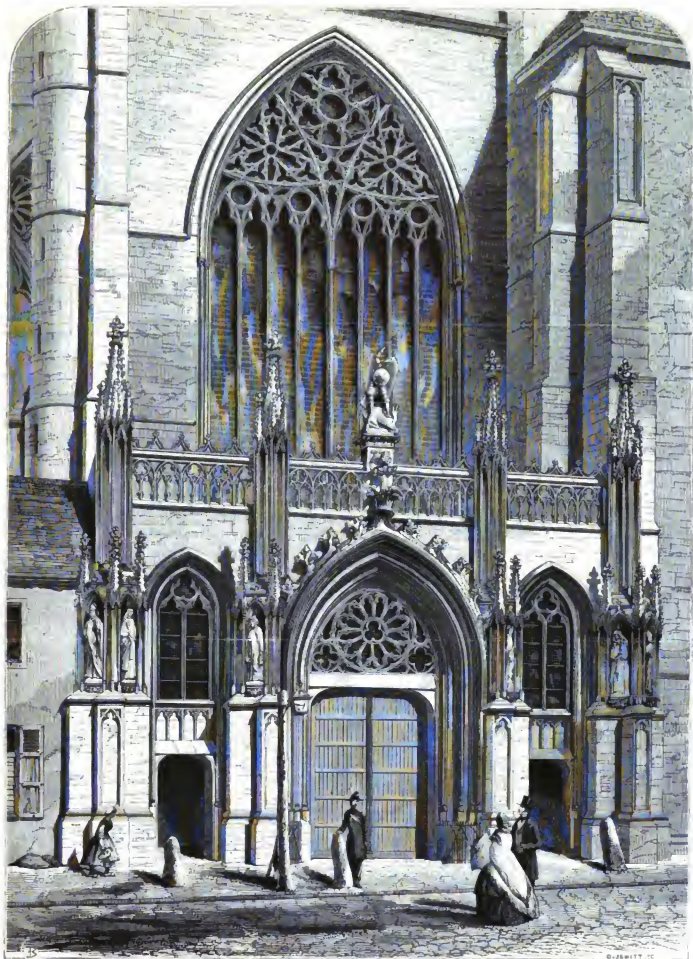
#### FIRES IN LONDON DURING THE PAST YEAR.

THE report of Mr. Shaw on London during the past year gives the number of totally destroyed premises as 53, being 25 in excess of the same list for 1860, and 13 in excess of the average proportion for the 28 past years. Of the premises burned, 90 were from two to seven miles distant from the nearest station; 85 were used for the carrying on of hazardous trades, such as calico-makers, carpenters, hay and straw menses, steam saw-mills, &c. Three were completely on fire before the arrival of the engines, and of the remaining number, some through imperfect construction, and one (Cotton's wharf) from its great magnitude and inflammable contents, baffled all the efforts of the firemen. The total number of calls received during the year was 1,400, of these 80 were false alarms, 137 proved to be only chimney alarms, and 1,183 were fires, of which 50 resulted in the total destruction of buildings, &c., 323 in considerable damage, and 746 in slight damage. The first of 1861, compared with those of 1860, show an increase of 127, or compared with an average of the 28 years during which the establishment has been in existence, the increase is 301. This list does not include trifling damages by fire, not sufficiently important to require the attendance of firemen, and which no record is anywhere kept, but they are considered, as may be estimated in round numbers at 4,000; neither does it include the ordinary calls for chimneys on fire, which may be roughly estimated at 3,000.

With regard to the fire at London-bridge, which occurred on the 22nd of June last, and resulted in the almost total destruction of thirty-three buildings, there is every reason to believe that, but for a serious delay and deficiency of water, and some violent explosions which took place at the commencement, the fire would have been confined to the building in which it originated. In six of the houses mentioned in the totally destroyed list, the supply of water was either late or insufficient.

The land steam fire-engines continue to render valuable service. In this engine a great difficulty has hitherto been experienced in getting on steam in a sufficiently short space of time; this difficulty is now obviated by the introduction, inside the fire-box, of a small jet of gas, which keeps the water constantly boiling. By this method two advantages are gained, one is that it entirely does away with the great risk to the boiler and machinery, caused by the sudden expansion of water when steam is raised in fifteen minutes from cold water, and the other is that it insures the raising of sufficient steam in less than five minutes, which is all that is ever required for practical purposes. The three new land steam fire-engines recently ordered of the Messrs. Mather and Platt, of Manchester, will always be kept ready for immediate use by the expedient already mentioned. It is confidently anticipated that they will be found more effective, and, at the same time, more economical than those worked by manual power.





SOUTH PORCH OF ST. GUDULE, BRUSSELS.





















THE REMOVAL OF THE MUSEUM COLLECTIONS  
TO SOUTH KENSINGTON.

T is hard, indeed, if the public cannot be made to believe that Brompton is the true centre of London, and the fittest site for every conceivable purpose under the sun. You must eat your whitebait at Greenwich, and your oysters on Lake Fusaro. So pictures and gardens, nature and art, are nowhere to be enjoyed in such perfection as beneath the shade of the "Boilers." Visitors are not yet deposited by a railway at the doors of the South Kensington Museum, but they will be. No one is thinking of carrying a railway into Great Russell-street, or to any other museum; so there can be no doubt, as the authorities at South Kensington assure the inhabitants of this metropolis, that there is, or will be, the single establishment most readily accessible from east, west, north, and south.

It would be mere waste of time to say anything about the situation. Those in favor of it do not deny that South Kensington is an outlying district of London; but they maintain that, practically, locality is a matter of no importance, as when the working man goes out for a holiday, he takes with him his wife and children, and thinks nothing of distance. If anything, he rather prefers a walk of four miles or so, when, at the end of it, he has fresh air and a pleasant prospect. "The public leave the London streets," says Mr. Bowring, "and cross the London parks, and soon reach the site." Without discussing the exactness or otherwise of these statements, it may be not amiss to notice the carefully-compiled weekly return of visitors. Here is one announcement:—

At the SOUTH KENSINGTON MUSEUM.—During the week ending Jan. 25, 1862, the visitors have been as follows:—On Monday, Tuesday and Saturday, free days, from 10 A.M. to 4 P.M.; on Wednesday, Thursday, and Friday, students only (admission to the museum, 5 A.M. to 6 P.M.). From the opening of the

public, 61,1, open from 10 A.M. till 4 P.M., 1,231 to 2,612.

The object of this departmental arithmetic is clear. It is as if they should say, "Look here, see what an enormous number of persons visit our collections at Brompton, proving at once their popularity and convenience of access." At first sight such seems to be the fact; but it is remembered that *no other free public exhibition is open in the evening*, any comparison between the numbers visiting South Kensington and those who go to the National Gallery and British Museum is ridiculously unfair. Let our readers imagine what would be the effect on the annual totals at the two last named institutions if they were to be opened *three days* in the week till ten P.M. We find it stated that the attendance at South Kensington is "nearly equally divided between the day and the evening," so that from 35 to 40 per cent. must be deducted from the weekly total in order to place the question on its fair and proper footing. We pass over the consideration that refreshments are sold in the building, that the museum stands amid an idle population, and is much frequented by nursemaids and children, although these must affect considerably the daily average. We have been led into making these remarks because, bound up with the report of the Committee on the British Museum, is a statement of the numbers annually visiting various public institutions, which are divided into "exhibitions in town and exhibitions out of town, to which the objection of non-accessibility would apply."

The Science and Art Department has won over to its views the Government which, on a recent occasion, put forth its whole strength of official Trustees in order to get a final decision on the removal of some of the contents of the British Museum. A rumour was industriously circulated that part of the Zoological Collection was to be conveyed to South Kensington during the recess. It proved, however, that the Trustees had advised the transfer of the Mineralogical and Geological Collections. This step can be carried out only with the sanction of Parliament, and we earnestly hope that, when the motion is brought forward, the independent members of the House of Commons will meet it with the most strenuous opposition.

The interest and delight taken by the general visitors of the Museum in the birds forbid the removal of their removal. The Trustees acted wisely in making their first attempt on the minerals and fossils. Let them

succed, and other collections will infallibly follow. The keepers of the departments assailed are opposed to any transfer, so that the resolution of the Trustees is marked by the distinguished qualities of being contrary to the plainly expressed opinion of those officers, in defiance of the remonstrance of the whole scientific world, in scorn of public convenience, and in the teeth of the Commons' Report.

The objects singled out for judicial separation cannot be packed and unpacked without injury to many, and some time must necessarily elapse during which they will be unavailable for purposes of study. "The mastodon," Mr. Waterhouse says, "is in a very bad condition." Its constant repair is rendered necessary by the mere walking of the people. He believes that it could not be moved, or, if moved, that it would have to be so made up as to become worthless. Besides the destruction of bones, and injury to other specimens, there is a risk of the smaller ones being detached from the tablets to which they are affixed with gum, and of their identity being thus entirely destroyed. As many of these are type specimens, from which figures and descriptions have been taken and published, the loss to science would be considerable. Of the minerals in the possession of the Museum, a great number are not exhibited, but out of these a large proportion "would not be worth cataloguing." Shut up in drawers are inferior duplicates which, the keeper states, are positively rubbish, and, if shown, would not be worth the value of the ground on which they stood. We should be curious to know if it is gravely proposed to transfer these valueless stones to the other end of the Museum. As the Museum has power to sell, or to exchange, but not to give, it seems more than probable that we may yet have to witness the farce of carting this rubbish to a distance of three miles and a half, unless Parliament has strength to resist the Circian blunders of South Kensington.

This project of splitting up the natural collection, with the strongest dislike by every scientific man. It has been reported against by the Committee of the House of Commons, appointed to take evidence on the matter, as one that "would excite much dissatisfaction, not merely among a large portion of the inhabitants of the metropolis, but among the numerous inhabitants of the country, who from time to time visit London by railway." Not only so, but citizens of foreign countries expressed their regret at hearing that any such idea was entertained. Sir H. Murchison expressly stated this fact before the Committee, and handed in a letter on the subject addressed to him by M. de Verneuil, member of the Imperial Institute of France. The writer says:—"The British Museum, as it now stands, is a monument unique in the world, which we envy you the possession of, and the preservation of which concerns the honour of France. To bring together in a single assemblage the productions of nature and the chefs-d'œuvre of art is a grand and noble conception, which should not be abandoned. In our country nothing similar exists." M. de Verneuil strongly urges that every effort should be made to maintain the establishment in its integrity. "Endless wars," he says, "have it caused where it originated, and where, up to this day, it has met with all those conditions which have insured its prosperity—remove houses and make room for it." This is, obviously, the better course to pursue, and the one recommended by the Committee after the fullest inquiry. Ground to the extent of 31 acres can be obtained on three sides of the building; and, even if there were no such resources, much space might be gained by appropriating the houses now occupied by officials.

The dismemberment of the British Museum is disapproved of by every scientific naturalist, and by the keepers of all the departments. The single exception is Professor Owen, who, if the decision of the Trustees hold, will find himself like the "engineer hoist with his own petard." He says in his evidence that he objects to the transfer of the mineralogical collection; he thinks that the various classes of natural objects "should all go together, or stay together." Formerly Professor Owen thought as other leading men, and signed, in company with them, a memorial to the effect that any removal would be viewed by the mass of the inhabitants with extreme disfavour, and that persons from the eastern, northern and western parts of London would feel it very inconvenient to visit the distant locality. He has changed his opinion, but even now he avows that he would much prefer to have room for future extension found at Bloomsbury. He considers a space of at least five acres so essential to the right and healthy progress of a national collection of natural history as to outweigh the inconveniences of any particular locality. "The learned Professor adds 'I love Bloomsbury much, but I love five acres more.'"

With the innate tendency which every one has to ride his own hobby, this eminent naturalist makes such extraordinary demands for space, and his ideas as to what a national collection should be are so vast, that the State would be heavily taxed in the attempt to carry them into execution. On all hands we hear complaints that the collections at the Museum are woefully so unwieldy and so extensive as to be a burden and a confusion, instead of instructing the visitor. But give Professor Owen the rein, and we honestly believe that an average parish would hardly hold the multitudinous objects. Birds, beasts, and fishes—all we must have; animals that live on the earth now, and every extinct species; species and varieties of species, represented by male, female, and young; one entire skeleton of the male and female of each genus, and of each species, and where there is any marked diversity of species, a skeleton of each.

Though we actually possess 15,000 specimens of fishes, we exhibit only 754. We are badly off for sharks—British sharks, 35 feet in length, which frequent our coasts. Such have been thrown up at Brighton, Worthing, and elsewhere. The only sharks we have are put between the wall-panels and the ceiling, where their distinctive characters cannot be seen or perceived. We could exhibit a single whale. As this animal is one with which English capital and English enterprise have largely dealt, the Professor

thinks that we ought to preserve at least one good specimen. If not, we shall be open to the reproach earned by the Dutch sailors, who, in their voyages to Batavia, were so intent on killing the dodo for food, that they ignored its value to science; the bird is now utterly extinct, and we show a solitary dried foot as one of our greatest curiosities. The public will be more easily reconciled to the absence of the whale when they hear that the dried skin is apt to become so offensive that few visitors would care to enter the room in which the animal is exhibited. The whale shown in country fairs turns out to be an impudent imposture, and is really carcass stretched over a wooden framework, and cleverly painted.

Professor Owen would be satisfied with nothing short of a gallery that should contain every known species of mammalia. All must be obtained, and not only obtained, but exhibited. Enormous as is the space required—850 feet long by 50 wide—it would be sufficient for the great size of some of these mammalia. Take the elephants, of three varieties, African, Indian, and Sumatran; to exhibit a full grown male and female and the young animal would alone fill a fair-sized room. And, to turn to our wifion friends of Baker-street, where on earth should we put the cattle of various breeds, and other domestic animals, as horses and dogs? These last present considerable difference in the growing stage, as the greyhound; and, if we are to act on the rule laid down, we must show three specimens of each variety. The integument of many species of this class renders them difficult to stuff and set up; and thus some excuse may be found for the fact that our present mammalian saloon is a ludicrous caricature. The tumble-down attitudes and hoistingly sewed skins of the animals make every one glad to pass through it as quickly as possible. The confined space and darkness are here of positive service in concealing these wretched creatures, which would ill bear the full light of day, or "proper exhibition."

The whole area devoted to natural history is at present 50,000 feet, and is asked to provide as much. The Zoological collection is now contained in 37,500 feet, and Professor Owen estimates the required space (looking forward, of course, to future needs) at 240,000 feet! If the whole division of natural history were to be moved to some other locality, he would like to have 5 acres for a two storied building, and, for one of a single story, 10 acres.\* As these demands are hopelessly extravagant, and as the line must be drawn somewhere, what we have to consider is how, by a reasonable expenditure of public money, to make our collections most attractive to casual visitors, and most useful for purposes of study. Professional instincts would, perhaps, prompt us to lean towards the Department of Antiquities, in which the keeper wants 61,469 feet additional; and might, therefore, suggest a clearance in its favor of the Natural History Collections; but we prefer to view the subject at a broader range from the standpoint of the general public, and especially of the class dependent on wages, whose instruction is one (professedly) main object of the British Museum.

It can be shown that the public, including in this term the crowd of pleasure holiday-makers and the intelligent inquirer who really visit the Museum in order to obtain from its collections information as well as amusement, and that students, from the most cultivated and eminent persons down to the humble inquirer who has had his curiosity excited by some slight elementary work, will, each and all, be benefited by a rearrangement of the departments on another principle of exhibition; if the idle gaze of the ignorant and the thoughtful researcher of the learned can be gratified in the self-same way, why should we hesitate to achieve so desirable a result? If, in addition, this end can be attained with a just regard for the national pocket, the adoption of any other system seems fatuous and absurd.†

#### FALL OF HOUSES AT HACKNEY.

ON Wednesday morning, about 10 o'clock, another accident of this kind happened in the Ambers-road, Hackney, near the railway station. On the south side of the road a range of houses, three stories in height, and having shop fronts, are in course of construction by Messrs. Ames, of Hornsey. The roof has been covered in, the carpenters were engaged in laying the floors, and plasterers and laborers were occupied on the scaffolding, when a rattling noise was heard, and the next instant the front walls and the roofs and the whole of the floors of the second and third stories of the Hackney end of the row fell, dragging with them a portion of the end or corner building. The men and work, of course, fell, and were buried beneath the mass of ruins. After great exertion twelve persons were got out, two quite dead. A similar accident is said to have occurred some months ago in the same locality.

We hope that a most searching inquiry will be instituted as to the cause of this accident, for it is quite time that some one should be held responsible, and that we should be able to go out without fear of being precipitated into an area, or of being crushed by falling houses.

#### FIRST CITY OF LONDON ENGINEERS.

AT a meeting of this corps, held at the City of London National Schools, White-street, Finsbury, it was resolved to form an artisan company, to be composed of the trades authorized for the Royal Engineers, i.e., carpenters, joiners, cabinet-makers, masons, bricklayers, plasterers, smiths, engine-fitters, millwrights, coopers, painters, sailors, collar-makers, miners, draftsmen, &c. Members of the trades enumerated are not to be required to pay an entrance fee, and will be provided with the uniform and accoutrements on terms to suit their convenience.

#### THE APPROACHES TO THE EXHIBITION BUILDING.

IMMEDIATELY after the beginning of the works at the International Exhibition Building, we called attention to the inadequate means of approach to it, and to the inevitable "block" which would take place in almost every one of the neighbouring thoroughfares when the tide of visitors flowed to South Kensington. It needed no great amount of foresight to arrive at this conclusion. The spectacle of entangled carriages and troubled Jesus seen in the Exhibition-road on an ordinary flower-show day at the Horticultural Gardens is a sufficient indication of the chaos to be expected when the concourse of carriages is increased twentyfold, and when omnibuses, cabs, vans, together with stage-carts and every species of middle and lower class vehicle are likewise driven there to mingle in the confusion. We all recollect the congested state of the main London streets on the night of the Peace Celebration in 1855. If we will but fancy such a vast concourse of omnibuses, carriages, and humanity wedged into every road and lane around the Exhibition building, we shall have but a mild idea of the difficulties and disasters which will belt it like a Pascal ring. Everybody seems to anticipate this "coming tribulation," but no one seems powerful enough to avert it. Mr. Cowper has been negotiating for the last three months with the periodical authorities of Paddington and Kensington, with a view of inducing them, jointly or separately, to make a road across the Park; and they, in their turn, have hoped to induce him to do it. Both parties desired the benefit of the road, but neither wished to pay for it; so the curtain fell upon the comical farce at that point when they mutually became acquainted with the object of each other's tender protestations. They then joined in an attack upon the unfortunate Board of Works, and thus diverted the growing discontent from themselves to that body. (No would have thought the Board of Works was already sufficiently weighted; what with sewers, embankments, and specifying members, it is not likely to make much progress in the matter. We may guess well what their proceeding will be—so long as it is for works to refer it to a committee, to listen to the representatives of the interested parishes, who will, of course, advocate it, to hear the opposition of other members, who desire an outlay to be made—where it is, of course, much more needed—in their own districts. Thus the subject will be laid out for death and burial, unless it be snatched from their stifling atmosphere.

The Exhibition Commissioners have received numerous suggestions upon the matter, but they have waited patiently for the last three months, and now, stricter, to be compressed in its grasp or to be relieved by some one "in authority." The doughty champion has at length appeared in the person of Sir R. Mayne, but, with all the knowledge, he has not the weapons with which to subdue the growing monster. The Commissioners admit the value of his suggestion, and "entirely concur" in the opinion that the removal of the obstacles to the approach to the Exhibition is a matter of the highest importance. They add that "Sir Richard Mayne has only embodied the substance of what they already knew." If so, why did not they take steps to remedy it? They erected their building amidst a web of narrow, crooked lanes, and are as much to blame as a man who should build a house without a staircase. It is all very well to thrust the responsibility for their shoulders, and to talk about the "discredit which would attach to the metropolis if the approaches to the Exhibition are found in their present state on the 1st of May."

The Commissioners may be assured that the first blast of the anticipated discredit will very justly be towards them. All that the metropolis should be concerned about is to make sufficient thoroughfares for ordinary metropolitan traffic; it is no part of its duty to provide for the approaches to a temporary building, at a cost which would cover works which are urgently and permanently required, and simply because the promoters have planted their building in a spot unapproachable by existing roads. It is, beyond all question, the Exhibition building which necessitates the new cuttings, the expense of them ought to be met by the Government, and not for or provided from its funds, the more especially as it is but a temporary structure.

The Commissioners will take all the money received at the doors, and the public will pay for its enjoyment. Had the Commissioners six months ago expressed the convictions which they now give utterance to, of the absolute necessity of improved approaches, and had they been honestly told that they must look upon such necessity as one which exclusively appertained to them, there is no doubt that they would have found the money, and have discovered it to be to their interest to afford safe passage to and from the building. They, however, found it convenient and economical to shut their eyes to this acknowledged apprehension, and now strive to shift the discredit to the metropolis.

We are now within three months of the opening of the Exhibition, and no step has been taken which brings us a yard nearer to the end of the difficulty. Mr. Cowper, who found money for making a road in the Park, has no money for cutting one across it; the Commissioners earnestly trust that the Government, the Metropolitan Board of Works, the various parochial boards and other bodies "every one, in fact, except themselves"—will not hesitate to take decided steps, i.e., to find the money. All these several Boards, on the contrary, earnestly wish that the Commissioners would make the honorable sacrifice. No one, seemingly, will do the work, and no one apparently can be made to do it. One little attempt at compromise, in amending the Bill, has been made, but Mr. Cowper has told the Board of Works finding the necessary money, to procure a Bill from Parliament which will secure the road to the public.

Sir R. Mayne now comes forward, and in a very able letter to the Exhibition Commissioners, sums up the obstacles which must be removed, and the new approaches which must be made, before he can undertake to keep

\* (Question 727, 729) 11 acres 21 poles, with libraries, offices, residences, and everything

† This estimate provides for all the present collections and also for moderate accretions.

‡ To be continued.

order in the streets. He insists on the absolute necessity—1st, of the formation of a new road across Kensington-gardens; 2nd, opening Park-lane into Hamilton-place; 3rd, of widening the Brompton-road; 4th, widening the short street from Ebury-bridge into Sloane-square; 5th, of making a tramway or a common road connecting the railway station near Kensington with the Cromwell and Gloucester roads; and, 6th, the removal of the barriers in Exhibition and Cromwell roads." The "observations" tasked to the Commissioner of the police's letter show very clearly that the police will have quite enough to do. If all his suggestions are carried out, but we are afraid, from the courteous reply in which Sir Richard is referred to all bodies "with whom the power may rest," that the Exhibition Commissioners will do nothing to facilitate the labor of the police, or to further the comfort of their visitors.

The Government does not appear to have power to make anybody do the work or rather pay for doing it. It had better therefore meet the difficulty at once and vanquish it. The approaches must be made, in spite of the affected indifference of the parties interested. Let Mr. Cooper not confess his inability to compel others, and Parliament will, we hope, grant him sufficient funds to dispense with even the advice of the irresponsible bodies. We should contentedly have him adopt the suggestions of Sir R. Mayne, and to carry them out with the same energy and determination which he evinced in forming the famous "ride." The inhabitants of Rayawater will even forgive him that "intrusion upon the privacy of the gardens," if he will but intrude upon it still further, and give them, gratuitously, a point across the river.

If the Government fences with the matter as the other bodies have done, we must take the fruit of the Exhibition with its encompassed raid of discomfort. The public must calculate on inconvenience and disaster when it visits South Kensington, even as it bargains for thorns in plucking gooseberries. It will be no more reconciled to the folly and inactivity of the Commissioners and "outside bodies" when smarting from the consequences of it, than it is now when only anticipating it.

#### THE ART-UNION.

WE have received the engraving of the London Art-Union for the forthcoming distribution. It is a large and costly work, engraved by Mr. Sharp, from F. Goodall's picture "Raising the Maypole." Of the composition of the picture we cannot speak very highly; something to unite the two groups into which it is divided seems wanting, and this is not supplied by the maypole, which, occupying the centre, is very happily posed. Either of the principal groups is satisfactory in itself, but attention is not sufficiently directed to the event—raising the maypole. It is a fine engraving, however, and could not, under ordinary circumstances, be obtained for double the amount of the subscription.

It appears that the Society has collected and expended over £280,000 in the advancement of the objects to which it was established.

#### THE PROPOSED NEW ROAD ACROSS HYDE-PARK.

AT the usual weekly meeting of the Metropolitan Board of Works, held on Friday, at the offices, Spring-gardens, Mr. JOHN THURNEYTON, the Chairman, presiding; Mr. POLLARD, Clerk of the Board, read a letter which had been received from the Right Hon. W. Cooper, First Commissioner of Public Works, in which he suggested that the proposed new road across Hyde-Park (to give increased facilities of access to the ensuing Great Exhibition) should be carried out at the expense of the Metropolitan Board. He also stated in the letter that the estimated cost of the proposed road was from £30,000 to £40,000, and that if the Board would undertake the formation of the road at their own expense, he would undertake to obtain an Act for the purpose of securing to the public a permanent and unrestricted use of the road. Some members of the Board expressed an opinion that the road would in all probability cost at least £200,000.

Mr. ROCKE moved, in accordance with notice, that considering there are many public improvements required in the metropolis which are of greater importance than that of making a new road across the property of the Crown, in Hyde-park, and although, at present, cannot effect, from not having sufficient means for this purpose, this Board should not undertake the formation of the road, but should undertake the making of the proposed new road across Hyde-park.

Mr. BAKER seconded the amendment.

Mr. ROCKE moved, as an amendment,

That the letter of Mr. Cooper, of January 30th, 1862, be referred to the Streets Committee for consideration and report.

Mr. LE BARTON seconded the amendment. After a long discussion the amendment was carried by a majority of 22 to 17, and thus became a substantive motion.

Mr. LEGG then moved as an amendment upon it,

That Mr. Cooper be informed this Board decline to take upon themselves the formation of the proposed road, unless Government place at their disposal funds for such purpose; the Board having no other means of raising money, and many great improvements to be made in the metropolis, in consequence of not having funds to carry them out, but are prepared to take measures forthwith for the formation of the proposed road through Hyde-park, in accordance with the suggestion contained in the letter of Mr. Cooper, dated January 30th, 1862, provided he will obtain the sanction of Parliament for transferring to this Board, for the purpose of effecting public improvements within the metropolis, the income arising from Hackney cabs and omnibuses, collected within the metropolitan area.

Mr. BAKER seconded the amendment, which was lost.

The motion of Mr. ROCKE was then agreed to.

Mr. ROCKE moved,

That Mr. Cooper be informed that the matter had been referred to a committee for consideration, and that he be requested to forward to the Board, as early as possible, the plans and estimates, which he is now in course of preparation.

This motion was seconded and agreed to.

Mr. FRANCIS BEYFORD has been appointed to accompany his Royal Highness the Prince of Wales in his tour through the East, for the purpose of taking photographic views of the landscapes, figures, and architecture of the various remarkable places that may be visited.

#### AN ARCHITECT OUT OF PLACE.

IT is very seldom, we are glad to say, that an architect figures prominently in any of our criminal courts. The gentleman who played so conspicuous a part in a recent trial before the Common Serjeant deserves, consequently, a passing notice at our hands. It is true he appeared as prosecutor in the case, but the unanimous opinion of all who heard his cross-examination, or who read even the abridged report of it in the newspapers, undoubtedly was that he occupied a wrong position, and a position which it may be said very positively architects do not usually occupy. An "architect" (we have called him an architect, because he so styled himself), one Mr. Brown, indicted a carpenter in his employment, who had formerly been his petting-creeper, for stealing a quantity of yellow laths. The evidence adduced was curious, for we all know that it is very unusual, and, in fact, contrary to all respectable practice, for an architect to furnish the materials of a building, and to claim the ownership of any such which may be missing from the works, or which had not, "to his knowledge," been delivered to him. Even the "Lancet" and "the Standard," in which the prosecutor answered the prisoner's counsel, did not allude to the features elicited in cross-examination. They told us very plainly what an architect should not be. He had been engaged in a great many building speculations.

Further light was thrown on Mr. Thomas Thurny Johnson Brown's professional practices by the questions of the opposing counsel. By his orders some of the work had been done, and the architect had been reinstated men who had been discharged by the superintendent of the works. He had brought actions against Mr. Bosanquet (the Treasurer of the Association for the Improvements of the Dwellings of the Poor, for whom the building was being erected), for conspiring with others to charge him, the "architect," with forgery.

We have strung these pearls together neither for their beauty nor their rarity, but because they possess a certain negative value in showing what an architect is not. Mr. Brown, spite of his conceited display of memory, has revealed himself in very positive colors. The whole profession does not, we believe, contain another such original. None but himself can be his parallel. A leopard might pass for a lamb, and a negro for the "lily maid of Astolat," but that Mr. Brown could ever be employed by educated gentlemen as an architect, and an observant of the usages of a liberal profession, except as a surprise. Nearly everything in fact, which he professes to have done to the building, whence this trial arises, is foreign to the practice of architects. They neither pay the men nor buy the materials. They neither engage nor discharge the workmen, nor do they receive their visits on a Sunday. An architect could not by any possibility, without losing the respect of his clients, transgress the limits of his office, or his vocation, be the prosecutor in such a case as that upon which we now comment. The ordinary training of the profession at least preserves its members from such pitfalls, and it is well to remember this when a gentleman of some distinction has asked before a "Society of Arts" what an architect is. He pointed out what can be accomplished without regular education, and without the professional training which will make him a present of this case to back his future arguments. He has a specimen at South Kensington of the art which can be got without them; he may now have a sample from the Central Criminal Court of the morality found outside them. Seylla and Charybdis naturally are reflected in the same strain. If an employer would the one, he is likely to be immoral, on the other. If he wants his work well done, artistically and morally, he had better sail in other waters, and steer his ship where men of cultivated taste, of common sense, and ordinary prudence are content to go.

If an architect of less extensive general experience than Mr. Brown, but with a conscientious regard for the duties and the honor of his calling, had been consulted and engaged, the Association for the Improvement of the Dwellings of the Poor would not have had their building now at a standstill; a handsome specimen of the work would have been completed, and the work would have been satisfactorily done. We now find no mention of a builder in the case. He, seemingly, for some unexplained reason, was deemed useless, and the so-called architect and the workmen ran confusedly together. We more than half suspect that some foolish miscalculations have laid at the root of the business. An "architect and speculating builder" may have been just the man to know how to do the thing cheaply. The knowledge of many things economically concentrated in one vessel was spoilt, however, by the pot which contained it, and the old proverb of "cheap and nasty" found another apt illustration. We are sorry for the Society, which must suffer by this transaction; but societies, however philanthropic, are no more exempted than men from the consequences of their folly. If they sow dissides they must expect to reap them. This Association began its building on a novel principle, and it has an exceptional result. We have some pity for the employers in this case, because we believe they meant well towards the poor for whom they had to provide; but we shall have none for any one who, with this example before their eyes, goes and does likewise.

Mr. T. Thurny Johnson may relapse into either of the many vocations of his disquieted and eventful career, but the accuracy of his life will not pass through his mind and smiling lips in the witness-box of the Central Criminal Court, will not be without service if it establishes in the minds of all men entering the profession the conviction that such attainments as he acknowledged, grafted even upon an architectural education, bears but dead sea apples, and that it is only by honorable conduct, upright actions, and level steps, that we can do our duty to ourselves, our employers, and our profession.

## BARRACK BUILDING.

**Maidstone.**—We hear that the difficulties in connexion with the enlargement of the Maidstone cavalry depot have now been entirely removed, and it is understood that the estimates will be brought before the Government forthwith. It is proposed to extend the barracks as far as Wharf-lane, necessitating the removal of the whole of the houses on the left bank of the river, and, however, being still reserved down to the river. The Grange-house Inn, and the adjoining houses facing the Sandling-road, as far as the above lane, will also be taken down; and as the front boundary will be in a line with the present railings, the new buildings, which will be of a very slight height, will be removed, and the wall at this spot very considerably widened and improved. The plans for the new barracks propose to furnish accommodation for about 800 men and 500 horses. The quarters for the commandant, staff, and other officers, with the mess-room, &c., will be erected on the site of the present buildings, and a considerable extension on the south side, the whole forming a range of buildings 100 feet in length. At right angles with this range, on either side, running down towards the exercising field, the soldiers' quarters will be erected, forming two very large blocks of buildings, three stories high. Separate provision is to be made for the married soldiers. The stables will be erected in the rear of the soldiers' quarters, and a second riding-school will be built, exactly similar to that now nearly completed, which is covered with a light iron roof, 50 feet in the clear. The hospital will be enlarged to double its present size, and nearly an acre of ground will be thrown into the exercising field. It is proposed that the main entrance should remain at the same spot as heretofore, but a second entrance will be formed, leading from Wharf-lane. The new barracks will be erected of brick, with cut stone dressing. The expense of carrying out the whole of the work is estimated at about £20,000.

**Colechester.**—Government has accepted the tender of Messrs. Lucas Brothers for the erection of the new Cavalry Barracks in extension of Colechester Camp. The original estimate was £20,000, but the amount of the tender is £24,000. Eight firms tendered for the works, which are to be completed within 12 months, although it was at one time contemplated to extend them over 21 months. The foundations are to be completed before the close of the month of March, and an extensive system of main and lateral drains will be carried out. The barracks, which are for a regiment of cavalry on the home strength, are, as lately stated in our pages, to be formed in blocks, affording accommodation for about 72 men each, and will be built of red brick, two stories high, containing 120 rooms each, which will be of three stories. The site of the erections will be the extensive grounds of the Abbey Farm, purchased about two years since by Government. Although these works will exhaust the Parliamentary grant made during the last session, it is understood that further sum will be asked for in order to carry out the entire plan, which embraces accommodation for two or three batteries of artillery and a strong body of Royal Engineers. This scheme will bring together the various branches of the service, and make Colechester the principal military station of the eastern district of England.

**Gravesend.**—The barrack buildings now in course of erection at Gravesend for the accommodation of the officers and men sent to that station from the garrison at Chatham, will be completed and ready for occupation during the approaching summer. The additional buildings will include a building behind the present block, running to nearly 300 feet long, 24 feet wide and 19 feet high. Adjoining this building is planned another block of houses for the officers' servants, accommodation being provided for 32 men. In addition to the several blocks of buildings already erected, a new mess-house will be built, and a quarter for the staff, mess-rooms for the officers and non-commissioned officers, and the usual offices. There are also buildings to be used as cook-house, commissariat store-rooms, reading-rooms, lavatories, and hospital. The buildings are erected of light colored brick, with quoin in red brick. The plan of ventilation adopted was suggested by the Army Sanitary Commissioners. The rifle range at which the troops will be instructed is situated some distance from the barracks, in a secluded part of the outskirts of the town.

## PROGRESS OF THE METROPOLITAN MAIN DRAINAGE WORKS.

**A**T the last meeting of the Metropolitan Board of Works, Mr. BAZALGETTE, the Engineer-in-Chief, in his monthly report on the progress of the Main Drainage Works, stated that in the month of January the Board had made good progress during the past month. The ironwork for the river Lee aqueduct was upon the ground, and the girders were fixed. The subway for the East London Waterworks, and the suspension of the supply mains, had been nearly completed, and the cutting through the ground of the Rotherhithe Tunnel at the Eastern Counties Railway, 24 feet deep, had been made without interruption to the traffic. The foundation works for the New Stratford-road, and the concrete foundation along the line of sewer towards East Ham, were considerably advanced. As to the three lines of intercepting sewers in course of formation between the Bow and Barking railway and East Ham, sixty of the arches, each of 18 feet span, which will carry the intercepting sewers across the marsh lands, were completed. The materials supplied were abundant and of good quality. The value of the work done was £20,000. The cutting of the sewer, Messrs. Brassey and Co. had constructed about 21,400 feet of sewer, varying in size from 3 feet in diameter to 9 feet 6 inches by 12 feet, at an expenditure of about £26,400. These works were for a time retarded by an accident to a coffer-dam whilst constructing the tunnel, which was caused by the bursting of the water entered into the sewer and emptied the basin of the canal, but it was again opened in two days, and no further mischief was done. Precautions had since been taken to prevent the possibility of a recurrence of such an accident in this difficult portion of the work. The completing works of the Rotherhithe Tunnel Overflow were in a very confined space in the Uxbridge-road, and progressed slowly. The value of the work done was £26,000. The Southern High-level sewer progressed very slowly, and the works were subject to frequent stoppages, mainly to mismanagement of the contractors, and to the bad weather and ground. About 71 miles of sewer were now constructed, valued at £144,000. Mr. Webster continued to progress satisfactorily with the Southern Outfall sewer contract, which will, to all appearance, be completed early in the spring, and before the time when it had the effect of raising the level of the water in the sewer, at an expenditure of about £285,000. At the Deptford Pumping station Messrs. Aird and Son had brought up the foundations of both engine-houses to

the ground level. They had constructed 444 feet of the double line of Low-level sewer near to and below Deptford Creek, and had laid 3,648 feet of cast-iron pipe, 3 feet 6 inches in diameter, from the High-level sewer under Deptford Creek to the Pumping station, and driven pipe about 150 feet of cast-iron, leaving the value of the work executed by them was about £27,000. Mr. Pearson had commenced his contract at Dulwich; and Mr. Dows had constructed 332 feet of the Southwark subway, 335 feet of sewer, and 70 vaults, at a cost of £33,000.

## DOORWAY AT KHOSH DINISSAR, MESOPOTAMIA.

**W**HE this week engrave a view of the doorway of a mosque at Khosh-Dinissar, in the Mesopotamian Desert. The mosque is situated on the site of a few mud huts, initiated by cultivating Kuris, and lies some six or seven days' journey east of Aleppo, and a few miles south-west of Nisibin—the ancient Nisibis. The only object of architectural interest in the place is the mosque, which is very fine in its details. It was built by Melek Mensur eln Mahummad Thabir. Like everything else in Turkey, it has fallen into ruins, although it is still used as the village mosque, and guarded, consequently, with jealous eyes from profane intrusion. To the fortunate circumstance of our artist travelling in the company of a tribe of the Shammar, who divide the honor with the Annizee of being most dreaded for their foraging exploits, he was enabled to enter the sacred precincts and sketch at his leisure.

The building, which has a dome in the centre, occupying the whole width of the mosque. The doorway, which we have engraved, is in the middle of one of the longest sides. On either side of it are four niches, with pointed arches. They like the doorway, have blocks of black basalt introduced in bands, resembling in that particular the early architecture of North Italy. A mutilated Arab inscription forms the pediment of the tympanum of the arch. On entering, we find ourselves immediately under the dome, which has fallen in, but the corbelled springings of it remain. They are all different, and of beautiful design. Right and left of us, as we enter, run four bays of nave and aisles, separated by colonnades. Immediately in front of the entrance, the Kebab, which marks—or is supposed to mark—the site of the tomb of Mecca, is situated, and before it the garden, at the stated hours, perform their genuflections and say their prayers. The Kebab is one mass of carved and interlaced work, designed with great taste and rich inventive power, and wrought with remarkable delicacy and finish. A modern wooden pulpit is fixed beside it. The whole building has a mournful look—dirty and dilapidated; but enough remains to show the style, and to excite our admiration, where now the plundering but artless Bedouen have undisputed sway.

## THE HOSPITALS OF PARIS AND LONDON.

**T**HE debate at the Imperial Academy of Medicine, on the relative advantages of the London hospitals compared with that of Paris, still continues, its latest incident being a letter from M. Husson, director of the Assistance Publique, of Paris, who expresses himself as follows:

A large portion of the hospital of Glasgow has just been rebuilt on an improved plan, and in London the hospital of King's College has received an addition of two or three new wards, which, in truth, are rather large, but are not so well arranged as those of Paris. Now, it is these improvements on which the whole debate is made to rest. The hospitals of London only contain 1,700 beds for a population which is double that of Paris. The hospitals of the latter city contain 7,000 beds, without counting the beds of the 104 wards of the hospitals, which we have, therefore, to provide for greater wants under more difficult circumstances. Most of our hospitals are situated on high grounds in the midst of plantations free from houses, and are the case with Boulogne, Lille, Valenciennes, St. Antoine, La Pitié, the Enfants-Malades, and Necker. Nothing of the kind exists in London. With the exception of a single hospital situated near Hyde-park, the hospitals of the city are built in the midst of populous districts, and in narrow streets. They have, therefore, the great advantage, and the sick wards receive light from one side only, which is a great defect. There are even sleeping rooms in several of the hospitals. Now there are the establishments, which are compared to ours? It is true that the wards of these imperfect hospitals in general contain fewer patients than ours. The English like to leave large open spaces in their wards, which, in truth, are rather large, but are not so well arranged as those of Paris. In the hospitals of London, although there is no artificial ventilation; and this, advantage, with few exceptions, we certainly do not enjoy at Paris. But in London they open their windows during the doctor's visit, and several times a day, which entails the absence of smells. The English beds are much more simply constructed than ours, which are too complicated. There are no curtains to the English beds. The wards are warmed by fire-pipes, but it is a mistake to believe them sufficient to ventilate the wards, or to suppose that they can replace a well-arranged artificial ventilation.

**DRAINING SLATES.**—It is said that Mr. J. W. Graves, of Fetter Lane, has patented an improved apparatus for draining slates, where accommodation is afforded for the workmen on the same. The slates are cut by a machine, which is mounted at a slight angle to the axial centre line of the machine upon a pair of holding discs. The cutting edges of the knives are in opposite directions, so that in imparting a circular reciprocating motion to the discs, the knives will alternately cut and draw the slates from the edges of the slates, which are presented to them upon stationary cutters or knives at each side of the machine. The reciprocating motion of the discs and their knives may be derived from a revolving drum driven by a pulley and band, and acting upon a series of arms forming a main shaft, or may be obtained from any convenient motion arrangement. The different slates of the slate are gauged by suitable gauges on each side of the machine.

**PARIS.**—The repairing of churches in Paris is being continued with great activity. The church of St. Etienne du Mont, which is situated between the Rue de St. Paul, in the Rue St. Antoine, at the junction with the Rue de Rivoli, have been put up. The statue of St. Louis, by M. Lequesne, is placed in the upper niche. A St. Anne, by M. Ezer, is placed on the right, and a St. Catharine, by Auguste Préault, on the left. The church of St. Louis, or St. Etienne, of which the foundation was laid in 1827, was not completed until 1841.

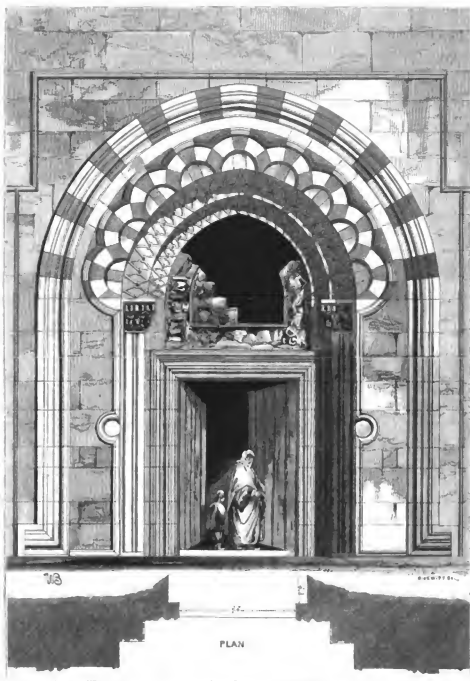












DOORWAY OF MOSQUE AT KHOSH DINISSAR, MESOPOTAMIA.





















## RECENT ACCIDENTS.



HAT with the fatal calamity at the Hartley Collieries, and the more recent accident in the Waterloo-road and in the Amherst-road, Hackney, the public will have supplied full of horrors. We have had barely time to recover from one deplorable mishap before, in rapid succession, the sickening details of others meet our eyes in every newspaper. Life is crushed violently from the bodies of fellow-creatures, limbs are broken, human flesh frightfully lacerated, and, above all, looms the melancholy spectacle of homes broken up and made desolate by the loss of those props which heretofore sustained them. The most painful reflection which these sad catastrophes suggest is that they might, perhaps, all, with proper precautions, have been prevented. It can scarcely have escaped notice that they are all referable to one and the same cause—to a desire to work properly cheaply—and that thoughtlessly, we honestly believe, men's lives have been risked, and, as it turns out, needlessly, to insure large returns. An extra shaft to the collieries would have insured a safe retreat to the

entombed miners; good bricks and mortar, less haste, and more efficient supervision, would have made sound buildings instead of a ruinous heap in the Amherst-road; a compliance with the notice of Mr. North, the Lambeth Surveyor, would have made the grating in the Waterloo-road safer now than it has been for years past; and yet we cannot justly lay the deaths at the doors of the respective employers, for we should remember that they are but types of their several classes. The Hartley mine was not a solitary instance of work done with a single shaft. North, south, east and west of the metropolis buildings have been run up as quickly and as economically as those at Hackney. Wherever tenements are let and sublet, there is always an evasion, as far as possible, of a landlord's duties. Further, this method of business is but another phase of the tradesman's fraud which adulterates every morsel of our food, dilutes our drinks, falsifies our fabrics, shortens the length, and diminishes the number of twists in our "warranted" cotton. It is part and parcel of the great ill which encases our social life. By the aid of unlimited "competition" we have created the Frankenstein, and the monster's cold touch is ever startling us. His mirth and smiles behind eyes that he hates, our elaborate and deceptive perspective views, he guesses at estimates, and wheedles committees. He copies pictures, buys them knowing them to be spurious, and then, with becoming gravity, dilates upon their genuine character. The employers of the unfortunate victims must, we believe, with natural retributive justice, suffer considerable pecuniary loss, to say nothing of other grief. He who is without sin of the same character may cast another stone at them. We would rather stretch out our hand in the hope of catching hold of some remedy for the evils of which they are the victims, and which have not yet put forth all their up-as-leaves.

We may dismiss the colliery accident. It was of such magnitude as to insure Parliamentary provision against its recurrence.

The Waterloo-road calamity suggests one or two striking points for observation. It is admitted that the paving-stone and the iron railing were private property, and, consequently, that they were beyond the control of the vestry. The circumstance of their fall shows clearly their dilapidated and badly constructed state. The stone with a flaw in it was 5 feet 4 inches wide, and it had no supporting brick arch. It was simply left in to the wall of the house, and rested on the other side upon the pavement wall. The cause of the accident is apparent to every man of common sense, and the jury was not drawn off on a false scent by the insinuation that the broker's violence in breaking open a door dislocated the landing. Mr. North, the surveyor of Lambeth, appears, from his evidence, to have brought the dilapidated state of these gratings before the General Purpose Board between two and three years ago, and he believed notice was served on the landlord's agent to repair the landings by putting brick arches under them. Subsequently to that time he "called Mr. Legge's (the landlord's agent) attention to the matter," but still nothing was done. The landlord had, meanwhile, sublet the premises, and, we are informed by Mr. Jeffs, the sub-tenant, said nothing of this notice to repair. He, like other "business men," made the best bargain he could, and was not bound to proclaim the defects of the property. Now, in common fairness, we ask, do not such proceedings take place daily? Does not even law—we talk not of morality—side with the lessor, and proclaim that the lessee should

use his eyes when taking possession of property? Do not let us be too hard upon the revealed evader of moral obligation, when we should but acknowledge his shrewdness if no investigation had been needed into the whole of the circumstances attending it.

It appears to us that the real flaw which caused the accident is a little removed from the scene of it. In the first place, surveyors can only act when their "attention has been called" to a dangerous structure. They, who from practice are most likely to see defects and dangers, must wait until less expert men discover and complain of them. They may know of unsafe spots, but they must know them officially before they can report upon them; and this brings us to the second noteworthy fact, that a complaint of the state of this identical landing was received, and that a notice was served for its repairs, but, strangely, no one seems to have had authority to compel the defect to be made good. For two years and a half people have walked over this condemned landing, its state has been known, and yet neglect has been allowed to culminate in disaster. Surely a little extra power might wisely be conceded to the surveyors. We can, in future, dispense with their waiting to have their attention directed to dangers, and we might advantageously allow them to enforce compliance with their notices. Failing such compliance, they should have power to get the necessary work done and to recover the amount expended from the parties who disregard their notices. We believe that a simple enactment like this would do more to prevent future accidents of the kind than fifty expressions of opinion—unfortunately, too soon forgotten—by an inquest jury.

The accident which occurred at Hackney was, if we are to believe all the witnesses, something very mysterious. A portion of a range of "superior" houses, three stories high, and having shop fronts, which have been only just roofed in, and wherein the carpenters were laying the floors, suddenly fell, like a child's card-house, burying no less than twelve persons in the ruins. The foreman of the carpenters stated that there were bond-timbers of the usual size round the buildings of each house. The roof "was tied in a proper manner." He believed the mortar was "good." The largest proportion of bricks used were "stocky." Old bricks had been partially used, but they were sound. No masonry posts were put to the houses which fell. This witness attributed the accident to the frost having got into the work, and the mild weather coming suddenly afterwards had caused the wall to buckle out.

A plasterer, likewise in the employ of the builder, attributed the accident to the good quality of the mortar, and confirmed the statement of the carpenter as to the bricks. They were, "generally speaking, 'stocks,' but he had seen better." He likewise thought the frost "might" have something to do with the accident; and, also, that the trains passing along the line—fifty yards distant—"might" have something to do with it.

A third witness, also in the employ of the builder, attributed the accident to circumstances over which his master had no control. "The mortar was good, being formed of three parts sand to one of lime;" but added, as the sand had been lying there for a long time, no doubt other substances got mixed with it. A larger quantity of lime was mixed with it in consequence of the presence of this "foreign" material. The bricks were not of the best quality. As he agreed with the former witness that the bricks were inferior, we are at a loss to understand what he means by the second-rate being placed on the top of the walls. Does he wish to infer that the third and fourth rate ones were placed below, for no witness has hinted at the fact of first-rate bricks being used.

Henry Ketteridge, on the contrary, decidedly condemns the mortar; it "ought not to have been used in such buildings as these." Loam was mixed extensively with the sand. The bricks "crumbled in his hand when he put them into his hod." He gives us a clear insight into the nature of the work, when he tells us that the inferior mortar, made of the sweepings of old buildings, was used at the back of the 4½-inch facings. The bad bricks were used for filling-in work." He further tells us that "the piers have been cracked this last three weeks." Another witness said, that "the bricks were of the worst description," and that "the mortar was of a very inferior sort."

Leaving the testimony of the workmen engaged, we come to that of the professional men.

Mr. Topham, civil engineer, decidedly condemned the materials; the mortar was "soft and loamy," part of the bricks "were very much over-burnt." The pier was not of sufficient strength." In his opinion "the accident was caused by the defective materials used in the buildings."

Mr. Tillitt, the surveyor, attributed the accident to the number of men on the work. His "practical experience" led him to believe that the bricks and mortar were of fair quality, and as a proof he brought forward the fact that the party-wall was still standing, but he admitted immediately afterwards that he had not much faith in his practical experience, for he did not think the wall sufficiently secure to go him-









## RELICS OF EASTERN ARCHITECTURE.\*

AMONG the many popular delusions which certain politicians sedulously cultivate, either from ignorance or from unwearied motives, there are none more pernicious or less true than that in the East there is no progress, and that civilisation in the land of its birth is brought to a standstill. In far-off Orient West may not be so "fast," and men may not "go the pace" as in the remote West; but the absence of go-aheadism is not proof that men and things stand still, feeding on the memories of the past and the legends of the future. The East is in the midst of a change as rapid as a jog-trot pace, no better evidence can be afforded than by the notes of travel of Miss Beaufort. Two maiden sisters wandered through the East, lived in the desert, camped out with Arabs, "assisted" at the outbreak of a civil war, and went their way in the true spirit of feminine curiosity, without inconvenience or without impediment. The only real grievances arose from the chilling indifference of English ladies when the wandering maidens, by the fire of their Nile boat, their ward-robes.

"Much linen, lace, and several pairs of stockings, shawls, broaches, combs, complete With other articles of ladies' tail."

To keep them beautiful and leave them such."

That they were not reluctant to the condition of Eve in her original ignorance, and left simple munditia, was owing to the generous sympathy of the ruler sex; for one lady to whom the loss of their wardrobes was made known magnanimously contributed to their outfit "the gift of one book and eye" (Vol. I. p. 74). The other grievance was the neglect they experienced from H.M. Consul-General at Beyrout, Mr. May. When the first fight between the Druses and Maronites occurred Miss Beaufort and her sister were living in Beit Meri, the scene of action. "The various consuls had each one sent up horses and mules to bring down their respective countrymen, protected by their own janissaries. The English Consul had, however, sent up no one. We had brought several letters of introduction to the Consul, but they were not taken to the town he had never called." Oh! Consul-General, is this your gallantry to two unprotected females on their travels? Grievances worse than these would not be the result of a journey to the Crystal Palace or to Epsom, when Londoners are holiday making; and sure are they that not in France, but in London, was a wandering maiden, who, instead of being introduced to the wife and family of every man there, may have a large charter accorded to them, be granted such license, and enjoy such freedom from offensive proceedings, as had Miss Beaufort and her sister. The progress of the East in this respect leaves England and France, the leaders of Western civilisation, "nowhere." Contrast the ease and security with which these ladies journeyed in the East with that of an officer of Engineers, who attempted a tour of Egypt just half a century ago. Poor Berrington started from Malta, with books, instruments, and letters of introduction to Mohammed Ali. He was shipwrecked before landing at Alexandria; crossing the desert, with a caravan from Cairo to Suez, he was robbed of his provisions and arms; and, when he was compelled to sleep in a tent occupied by plague patients, two of whom died during the night. At Suez he was beset by further difficulties, and obliged to return by the next caravan to Cairo; he was overtaken by the sinuous, which killed many of his fellow travellers; and at Cairo he found the plague raging, which fastened on him and slew him at Zante, as he was making his way back to Malta. Now Cairo is as free from plague as London, and Shepherd's Hotel is almost as luxurious as Meurice's, and certainly much cheaper. Suez is the Holyhead of the London and Bombay line, and there is no more danger of starting on the journey through the desert than there is while crossing Chatham. Is not this progress? Why, under the shadow of Palmyra, in the midst of Arabs, to carry their lives in their hands, Occidentals have been known to exchange their wealth with as much security as if they were on a picnic in Hampton Court, not thinking it worth while to ascertain if the masha'ib by their side covered a slumbering Arab or a deafening European.

It is a melancholy reproach to our thirst for knowledge or spirit of inquiry that the riches of Western art and travel have proved more destructive to the monumental achievements of former ages than centuries of neglect and of Oriental vandalism. Since Napoleon's invasion of the East, down to the appearance of the latest importation from beyond the Atlantic, in the shape of a Yankee note of interrogation, transformed for the time being into a kiss, the East has been ruthlessly pillaged, its stock mounded up for sale, its treasures scattered to the winds. The present Earl of Aberdeen—how unlike the "travelled Thane!"—induced the Pasha of Egypt to clear out the famous rock temple of Abu Simbil, in order that he might behold its glories; but, with an indifference or contempt for the diffusion of art-knowledge, and a positive unwillingness to those who were to come after him, the noble lord omitted to ask that the temple might be kept clear. Consequently, as soon as his curiosity was gratified, the fellahs threw the sand back again, so that the mysterious glories of the interior can be but imperfectly and with difficulty discerned, and yet the works which Belzoni and Lord Haddo have done for the little Europeans, perhaps, to behold once, must be well worth the study of the more numerous and the more numerous.

The light, which passes through the small opening enabled us to distinguish the features of that far-famed hall, which sinks deeper and deeper into the heart the longer you behold it. Four colossal figures stand at each side of the middle aisle as pillars, dividing off the narrow and dark recesses behind them. At the light of the day, the figures of the new become dark, imbued with his almost superhuman strength and manly divine calmness, the oval faces and the strongly marked features of the face speaking the god of the rock, and the knotted osiris forming the god of judgment.

Besides this hall, there are tortuous chambers in the temple, all perfectly dark, of course, though before the sand had choked up the entrance, the four small figures which sit on an altar at the farthermost end of the apsidal facing the door, must have been dimly visible. The four figures are represented as seated, and their hands are spread out to look with their stony eyes along the whole length of the temple and across the sacred ever-flowing Nile, to the steep purple overhanging mountains beyond its green banks. On the walls of the central hall are represented the deeds and conquests of the great Rameses; the other chambers are also sculptured all over, and two or three of them have a stone divan extending along the sides, but the pictures are so blackened with smoke as to be very difficult to decipher. Of the four colossal figures of the fellahs three only are quite uncovered by the sand, and one of them has been destroyed by the wind, while of the fourth only the head and shoulders are visible. The four figures are seated on the floor, the hands on the knees, signifying his rest after many conquests. I saw those figures I never could see the features of the colossal statue could express such grace and benevolence so sweetly and gently mingled.

When Gerard de Nerval swung out his exhausted frame under a leaden cheerless sky, and in a den of infamy, he had been dreaming of the East, of its glories and its mysteries, and he had leaped into eternity weary of his life. How different was his position from that of an American, who, the author relates, pulled down the alabaster slabs lining a temple, that he might select the *marbreux* to be broken off for convenient carriage to his museum. Was it Mr. Seward, who about the time referred to was travelling in the East?

There is an evident psychological relationship between the destruction of such a relic and the device of the stone diet to blockade Charleston. French members of the Académie des Inscriptions have blasted down portions of structures, to save the exertion of climbing for the purposes of inspection. Recently, the French army defaced a rock tablet at the mouth of the Dog River, commemorating the passage of an Egyptian army to assist the Emperor, the French General in command, and the troops. A couple of young English travellers did their best to deface the French profanation, and so created an occasion for Mr. Nevins Moore to exercise his diplomatic skill, as usual fruitlessly and without credit. The ruins of Balbeck are degraded by incised and painted names of the celebrities and many an oasis who have visited the spot. Arabs break down columns for the sake of the clamping irons. Part of Palmyra is invisible from the fellahs having built their hovels amid the ruins, while the convulsions of nature now and then help the work of destruction. If the reader be curious to realise what the world has lost, let him compare the drawings of Wood and Dawkins of Balbeck with those made a century later by Roberts.

What Cairo is now, we all know, if not from actual inspection of the town, at least, by the overall map. Yet, according to Henry Blount, who travelled in Egypt in 1634, the number of churches and mosques then amounted to 35,000, the noted station to 24,000. At the present time, he reported, was thirty-five or forty miles in circuit. Allowing for travellers' embellishments, the city was evidently much larger than it now is, and there is too good reason to fear that the contraction of its limits has destroyed structures and works of art that would be priceless now for architectural and ethnological purposes. The British Consul, Sir R. P. Wood, who visited Egypt by the Red Sea to join the army of Lord Hutehinson, they imagined they had found at Denderah the temples of their faith, and of a cognate race. They were exceedingly wrath with the Egyptians for the neglect of their gods, and they performed their devotions in the temples with all the ceremonies practised in India. Yet the Temple of Denderah is of comparatively recent date, quite a modern antique, according to Miss Beaufort, who writes:—

It loses all interest of detail after the temples and tombs of Thebes, the hieroglyphics broadly testifying their modern age by their poorness of outline and bad arrangement; its construction, for the more refined but more perfect temples further on; the great square court succeeding the pylons leads in the larger temples is here wanting; but the magnificent portico makes up for this. The ceiling is painted to resemble the sky, and the columns are carved in the shape of a ship on the stone. It is supported by twenty-four grand columns with square capitals, to which the colossal face of Aithor is affixed on each side; very curious hieroglyphics are carved on the capitals, and the whole front is covered with hieroglyphics.

But Egypt is now "used up;" by our Sir Charles Coldreans; its mysterious portals twice told; and if we would say "pastures new," we must follow the wandering maidens to Syria and Palestine.\*

## LAMBETH BRIDGE.

AT the half-yearly meeting of the shareholders, held on the 13th inst., the Directors reported *inter alia* that they had "arranged with the London Gaslight Company to lay down two miles of 18 inches diameter, which has required an increase in the strength of the structure, for which your Company receive a payment of £5,000, with the advantage of the bridge being lighted free cost."

Mr. Barlow, the engineer, reports that the cylinders of the Lambeth pier are complete to the level of high water, and have each been tested with a pressure of 100 lbs. per square inch. The cylinders are in perfect condition, and will be ready for testing in less than three weeks. The experience of these operations confirms the undeniable economy and safety of the system of cylinder foundations. The abutments on both sides of the river are progressing rapidly.

On the subject of the proposed new building on the Lambeth pier, the Company's property on the Lambeth side for the manufacture of the cables, and they expect that the cables will be complete by the 15th March. The ironwork is in progress at the works of Messrs. Porter and Co., and a cable of 100 lbs. per square inch is being made. Mr. Porter and Co. state that the progress during the last two months be continued, the bridge will be opened in May.

\* To be continued.

\* Egyptian Sphynxes and Syrian Shishon. By ERIC A. BEAUFORT, Longmans, London.





style that have prevailed in the more highly civilized countries of different ages, forms an essential part of the education of an architect. But I believe I shall be best fulfilling my duties here by drawing your special attention to those lower principles of design that seem to me to be the only really valuable to the student, whether he be an architect or the acquirer of a knowledge of details must, as it seems to me, be always subordinate.

It would, therefore, be taking a very narrow view of the study of the art, to confine our attention to the history of the style, whether it be the style of the period, or the style of the period, or that which left in the great municipalities of North Italy enduring monuments of civilisation and grandeur.

The time may come when architecture, unencumbered by prehistoric or post-historic, may cease to feel the past, and make a loftier and nobler flight.

The festival has marked the history of modern art. There was a great revival in the fifteenth century. Nothing could exceed the enthusiasm of the artistic world when Leonardo da Vinci arrived in the studio of the master, and the master himself, in the person of his pupil, his art-horizon there was no want of discerning judgment. They day up, and measured and styled, with minutest care, the works of the Classic ages, but they wrought themselves to the relief of the modern.

The style of antiquity was by them so modified to suit the wants and habits of modern civilisation, that their work became as much marked by originality as by beauty. It may be said, questioned whether the world has yet seen more ingenious and equal to some of the quattro-centists.

Let us have a note that the second revival—the of the nineteenth century—is not marked by a narrow, sectarian spirit, and by the ignominious results inevitably attendant on a blind, servile, superstitious adherence to precedent—a feeling from which the great movement of the fifteenth century was so entirely free.

No do it, the arts have advanced much since painters habitually drew the heads of men and women with their elongated eyes placed somewhere about their temples, and represented the figures sleeping off with lock legs together on the same level as the ground. In such a case in our art we have yet much to learn, many prejudices to dislodge, much to rub off before architecture can take its true place.

It may be long before a like revolution takes place in our art, but we may look forward hopefully to the result of a combination of many minds acting in an earnest spirit and guided by right principles.

#### ROYAL HORTICULTURAL SOCIETY'S ARTESIAN WELL.

THE monthly summary of the proceedings of the Royal Horticultural Society gives some particulars relative to the sinking of the artesian well in the Gardens by Messrs. Easton, Ames, and Sons, who were so confident of success that they undertook the work on the promise of "one water for every penny" guaranteeing a supply of seventy-five gallons per minute. The well is now bored, and the confidence of the engineers has been justified by the result. Not only has the well been sunk at the estimated cost, and water been found at the expected depth, but it has been found of the purest and softest quality, and in such abundance that, instead of supplying merely from 100,000 to 110,000 gallons in the twenty-four hours (the quantity stipulated for), it can readily supply a million gallons in that time, if larger pumps and more powerful engines were employed. The total depth of the well is 260 feet, and the water has sunk to the depth of 220 feet, and a bore therefrom carried down 175 feet further. The London clay was found to be of unusual depth, the thickness of the stratum passed through being 108 feet. The two wells (that at Trafalgar-square and that of the Society) correspond in one point, which is of excessively rare occurrence, wholly beyond provision, and a pure matter of chance: out of numerous wells bored by Messrs. Easton, Ames, and Sons, for instance, these two are the only instances in which it has occurred.

It is interesting to observe that the water, in passing through the chalk, in both cases, the water is pure and of a fine quality, and is not of a peculiarly mineral taste. To understand the significance of this, it is necessary to remember that the way in which the water in the chalk finds its way to the surface, or into the ocean, is through such fissures. A couple of miles of the surface of the earth, then, may be seen in the River Wandle, which takes its rise at Carshalton near Croydon, pouring out of its source through such fissures a river ready made. An instance of its falling into the sea out of such fissures may be seen at low water near Brighton, where a succession of vertical fissures, from the narrowest chink to 6 inches wide, occurring at varying distances from each other, pour out an immense quantity of fresh water. Such fissures act as the main channels by which the water in the chalk finds its way into the sea. When a well sunk into the chalk does not fall upon one of these, it is dependent for water on what may percolate through the surrounding chalk into the well; but, if it hits upon a fissure, it draws its supply from a stream itself, and it will, of course, depend upon its size how far it may be exhaustible. The quantity of water percolating through the chalk, and the size of the fissures, are for all ordinary purposes, any well sunk for some depth in it is sufficient. If a very large supply is not wanted, the only drawback on such a well is that it may be lowered by unusual or continuous pumping, so as to require some time to be given to allow it to refill, and that in course of time the water will be lowered still further. A well which has dropped upon a fissure, on the other hand, may be lowered by pumping for ever without lowering its standing point. It draws its supplies from a running stream, as it were, and as fast as it is pumped out it flows in. This remark, however, only applies to the standing-point, which has once been found, after the well is opened and first tried, there is always a falling, from the effects of pumping, until the proper level is reached.

In the Trafalgar-square well the standing level (which was found after the first 48 hours' pumping, during which the surface of the water was lowered 10 feet) has been constantly maintained. Since 1844, and, at the same amount of pumping at South Kensington has lowered the surface of the water only 16 inches, it is reckoned that the supply of the Society's well will be much larger than at Trafalgar-square. The standing level of the Society's well is 10 feet higher than that of the latter, and a fountain which may, perhaps, be accounted for by the greater number of other artesian wells sunk to the eastward of the latter, and possibly, also, by its being nearer to the outlet of the water.

A column, which accompanies the summary, shows a section of the Society's well, and of that which supplies the Trafalgar-square waterworks.

THE EXHIBITION BUILDING.—On Saturday week the eastern dome, as far as its main features of construction are concerned, was completed. At three o'clock the centrepieces of the twelve ribs were knocked away, and the immense mass of metal stood for the first time supported alone by the columns and girders. At the time of striking away the wedges there were present Mr. Thomas Fairbairn; Mr. Baker, engineer to the London and North Western Railway; Mr. Peter Rolt, of the Thames Iron Works; Captain Ford, Mr. Bennett, and several other gentlemen interested in the progress of the work. There still remains the glazing and some of the minor portions of the work to be completed, but the "big dome" is practically finished.

#### ANCIENT AND MODERN SUPPLIES OF WATER IN ROME.

AMONG the marvels of ancient Rome, and the most wonderful, are the aqueducts. When we consider their great number and immense cost, in order to conduct water 30, 40, and 60 miles into the city, we are struck with surprise. Pliny tells us of the inconceivable quantity of water thus brought to Rome for public uses, for fountains, baths, fishponds, private houses, gardens, and country seats; of costly aqueducts and conduits, mountains cut through, rocky hills bored, and deep valleys filled up;—in short, they were at that period, the most wonderful works of art and engineering skill in the world.

For 440 years the Romans made use of no water but that of the Tiber, and of wells and fountains of the town and neighbourhood; for the latter they evinced great veneration, because the waters were supposed to restore the sick to health. About the year 441 of Rome, the necessity was felt of conveying water in a supply abundant not only for domestic but for public use, for there had existed, since the reign of Tarquin the Elder, 138 to 176 sewers, one of which, the Cloaca-Maxima, received all the impurities of the town, and had to be flushed with large quantities of water to sweep the refuse into the Tiber.

Sextus Julius Frontinus, superintendent of the water supplies and aqueducts of Rome under the Emperors Nerva and Trajan, has left us a description of these works. His writings were translated by Rondelet in 1820. Two or three years ago M. Rozat, Ingénieur des Ponts et Chaussées, published a work reducing the modern fermule into practical results for the use of the year 441 of Rome, the necessity was felt of conveying water in a supply abundant not only for domestic but for public use, for there had existed, since the reign of Tarquin the Elder, 138 to 176 sewers, one of which, the Cloaca-Maxima, received all the impurities of the town, and had to be flushed with large quantities of water to sweep the refuse into the Tiber.

The modern waterworks have been investigated by M. Oudry, Ingénieur des Ponts et Chaussées, employed on the railways at Rome, and the Inspector-General of the railways in France. He has measured the volume and distribution; from notes made on the same spot by the permission of M. Bianchini, Engineer of the Municipal Service of Rome.

In the year 442 the Appian viaduct was constructed, by which the first supply of water was conveyed to Rome. It is spring-water. The length is 1,190 Roman paces, of which 1,130 were underground and 60 on super-structures and arches.

In the year 484 a supply by the aqueduct of Anio the Ancient was laid on from the river Anio. Its length was 43,000 paces, of which 42,779 were underground.

127 years afterwards, in the year 608, the Appian and Ancient Anio aqueducts having become dilapidated, and the water being fraudulently distributed, the Emperor Honorius, by a law, gave the measure of water to the Government put them into a state of proper repair, and added a third aqueduct, then rendered necessary by the increase of the city; this was the Marcian aqueduct.

According to Frontinus the sum of 8,400,000 sesterces (£90,780) was granted to one Marcus, a money-lender, to conduct water from springs existing near the city, and the water of the spring of the source of the aqueduct was 67,100 paces; the subterranean portion is 52,427 paces, above ground 7,436 paces.

In the year 627 the Tepallan spring was conducted to Rome, and in 719 the Julian source was joined to it. The length of this conduit is 15,426 paces, of which 6,474 are on arches.

The aqueduct of the Virgin Water had a total length of 15,510 paces, of which 1,405 were in subterranean canals, 12,865 in conduit underground, and 700 on arches.

About the same period the waters of the lake Alstietina were conveyed to Rome; of inferior quality, they were destined chiefly for the *naumachia*, or theatrical and naval engagements of Augustus, and for the irrigation of the gardens, &c. They were 22,172 paces in length, 358 being on arches.

In order to supply the deficiency of the Appian and Marcian aqueducts in time of drought, Augustus caused to be diverted into the Appian aqueduct a stream (name not mentioned), conducted underground for a length of 6,880 paces, and into the Marcian supply by a subterranean canal of the waters of the source, which took the name of the Augustan, on the right bank of the Anio, at the height of the Marcian.

Under the reign of Augustus, Agrippa caused all the ancient aqueducts to be repaired, added more than 330,000 feet of new ones, and constructed 130 reservoirs, 500 fountains for public use, and 700 drinking troughs; he added these to the city with 500 statues and 400 marble columns. Agrippa, we are told, opened the sluices which hemmed up, in seven great reservoirs, the waters brought to Rome by as many aqueducts, and fished the sewers of the city with these seven rivers, which carried off immediately all the accumulated filth. He afterwards took a boat and navigated the cleaned sewers as far as their outlet into the Tiber. The sewers were 17 feet high, 15 feet wide and 15.75 feet deep.

After these aqueducts no others were constructed till the time of Cesar Caligula. At this epoch the seven existing supplies appearing insufficient for public use and private luxuries, Cesar commenced two others, which Claudius his successor completed with great magnificence. The first of these was conducted to Rome by a viaduct, and the second, the Claudia, as situated, as the Marcian and Augustan, on the right bank of the Anio.

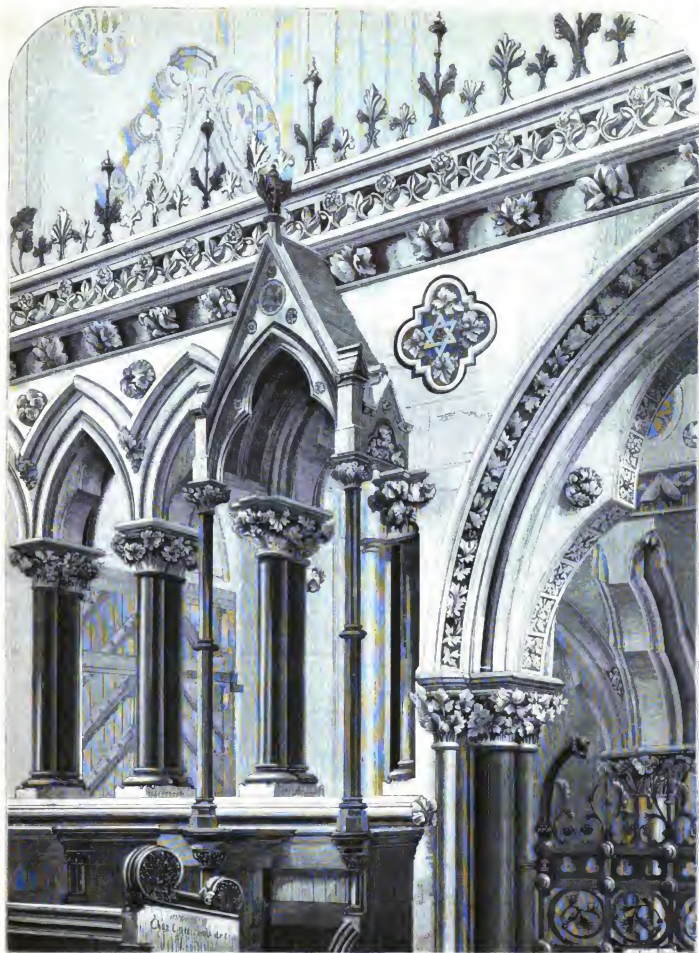
\* Contributed.

† The Roman pace was 4,970 feet, and the Roman foot 11.4033 inches.

‡ Frontinus calls all parts underground, subterranean, those supported on solid walls, sub-structures.

§ Frontinus generally keeps silence in his writings as to expenditure. Rondelet values the first at 700,000,000 of a franc—about one centime more than a Spanish real of value of our day.





THE RECTOR'S CHAIR AND PART OF SCREEN, EXETER COLLEGE CHAPEL, OXFORD.



In length was 46,406 paces, of which 36,330 were subterranean, 609 in substruction, and 9,567 in arches.

The second aqueduct conducted the water derived from the river Anio higher up the stream. It is naturally turbid and muddy in rainy seasons, so that purifying filters were disposed along its course. The length of the new Anio aqueduct was 58,100 paces—viz., 49,300 subterranean, and 8,800 on arches. The arches in this supply are the most elevated, attaining a height of 108 feet. The Claudian aqueduct, in the environs of Rome, is borne upon the same arches as the new Anio.

The Neronian and Marcan constructions in the interior of Rome, with the exception of the aqueducts of the Virgilio and Alsetina waters, arrived at Rome near the Porta Major; from this point, arches, described by Frontinus as considerable, carried the new Anio and Marcan supplies on to the Caelius and Aventinus mounts.

Such were the chief of the Roman aqueducts as they existed at the end of the first century of our era. In the following summary the total lengths are given in English feet.

	English Feet.
Appian and Augustan .....	85,400
Ancient Anio .....	209,610
Marcan .....	209,225
Ulpian and Julia .....	12,125
Virgilio .....	73,524
Alsetina .....	102,476
Augusta (modern) .....	1,606
Camilla .....	235,997
New Anio .....	363,940
<b>Total .....</b>	<b>1,064,904</b>

Of these totals we have—

	English Feet.
Underground .....	1,184,944
In substruction .....	1,476
On arches .....	100,140
<b>Total .....</b>	<b>1,286,560</b>

As to the system of construction, the Roman aqueducts were canals lined with masonry, some buried underground, others supported on solid masonry, or on arches to maintain a uniform inclination. The first aqueducts built were of a rectangular section, the later were constructed with semicircular arches. We have no data as to the section and mode of construction of the portions underground; as to the aqueducts on arches, we have some dimensions and sketches. The arches of the latter vary in span from 17 feet 7 inches to 26 feet 9 inches.

In a fragment of the Claudian arches, of 75 feet 6 inches in height, the span was 19 feet 6 inches; the thickness of the pier, 14 feet 6 inches; width of pier at right angles to axis of aqueduct, 7 feet 6 inches; thickness of arch at keystone, 2 feet 7 inches; the invert was on a level with the extrados of the arch and the rectangular section of the aqueduct, 5 feet 10 inches by 4 feet 3 inches high; the side walls and covering of the aqueduct, 3 feet 3 inches thick. The masonry of the arches were of stone-work; the side walls of the watercourse seemed to have been of concrete.

The Neronian arcade for the new Anio was in spans of 36 feet 3 inches; width of piers, 7 feet 7 inches; height of ditto up to springing, 53 feet 6 inches; the transverse section of watercourse, with semicircular arch, 2 feet 7 inches span, 7 feet 4 inches from invert to soffit of arch; it was constructed of brick.

The aqueducts in general had three stringcourses of dressed stone, one at the springing of the arch, and the others at the invert and summit of the culvert. The covering was either flat or sloped on each side if the section was rectangular, or curved if it was semicircular.\*

#### ARCHAEOLOGICAL INSTITUTE.

At a meeting of the Archaeological Institute, held February 7th, Professor DONALDSON, in the chair, Professor WESTWOOD, of Oxford, gave an account of a visit made by him to Trèves last year, and exhorted his hearers to go there in search of objects of ancient art. He described the museum as full of curious and most interesting objects, but with no order or arrangement whatever; he mentioned the Franciscan monks, a gift of the Sister of Charlemagne, and a Book of the Gospels, written by the monks of Richenau for Archbishop Egbert. He exhibited a casting from a fine ivory—St. Helena entering some city in procession—the work of the time of Charlemagne. In the western crypt of the cathedral they have lately found a well; it may have been used in the earliest times for baptizing.

Professor DONALDSON, agreeing with Professor WESTWOOD as to the interest of Trèves to the archaeologist and student of art, pointed out the importance of forming a collection of ivory, and the interest of the Trèves museum in the valuable works on this subject by Mr. Digby Wyatt and Mr. Edmund Oldfield.

Capt. WINDUS, R.N., then read an account of a great wreck, or, more properly, built by the Knights of St. John, at Nice, in 1530. It was one of the fleet built by the Emperor Charles V., in 1530, against Tunis. She was named the *Serena d'Ana*, and attracted much attention from her size, armament and fittings; she had six decks, and her crew was 300 men. The "carrack" figures in the *Succes* of the Palazzo of the Knights Hospitallers at Rome.

Mr. W. BURGES read a paper on the illustration of the history of an officer lent to the Florentines, by Amerigo de Narbonne. He is represented on horseback. The armour, of which Mr. Burges had sketches, differs from the armour of the same period in England, when plates of leather or metal were worn with samarra; this character is more marked in the armour of the Florentines.

Mr. H. G. P. MISTRY exhibited photographs of the church at Harling, Sussex, and of two tombs and effigies of Sir Edward Caryl, of Ladyholt-park, in that parish, and his son Sir Richard. The chancel or monumental chamber has been lately removed; the family is extinct.

Mr. E. GORDON sent a notice, with drawings, of the Tower of St. Philip's

\* To be continued.

Church, Bristol; it was of the thirteenth century, and was suffering from neglect and age; he suggested that the Institute might do good by calling attention to the subject.

A curious image of lead was exhibited by T. A. ROBERTS, Esq., M.P., through Sir Robert H. St. Edmund HEAD. It was found in Cornwall, near one of the ancient smelting-houses, called in the county "Jew's House."

A bronze sword, found in the River Lea, of remarkable length, was exhibited by Mr. A. W. FRANKS. Another, of remarkable form, Lincolnshire, and some Persian arms were exhibited by Mr. W. J. BARNARD STUART, some stone cells, from Ireland, sent by the Rev. G. Mellor, of Warrington, and some curious mining axes, sent by Sir R. Murchison, from the Museum of Economic Geology.

#### HISTORY OF THE DISCOVERIES AT HALICARNASSUS.

THE magnificent but too costly work by C. T. Newton, Esq., M.A., late of the British Museum, on the "History of the Discoveries at Halicarnassus, Cnidus, and Branchidae," is severely criticised by Mr. Fergusson, who, writing to the *Athenaeum*, says:—

As an architect, I dissent from the restoration of the Mausoleum therein contained, because it makes one of the most hideous buildings ever dreamt of out of what all antiquity agreed was one of the most beautiful. Upon any circumstances, a great cubic mass of plain masonry 119 feet high in plan, and 65 feet high, unrelieved by either sculpture or architectural ornament, is as ugly a feature as ever issued from the hand of man; and when used as a base for a delicate and highly-ornamented Ionic order, it also becomes one of the most inappropriate. Above this, in Mr. Newton's restoration, there is nothing but a low flat pyramid—truncated to receive the quadriga, but so truncated that it can scarcely be seen. Itself, but manages at the same time to prevent the sculpture it supports from being visible within any moderate range of vision. If the Greeks did all this, they were a wonderfully stupid and inartistic people.

As an archaeologist, I dissent from Mr. Newton's theory, not only because they are in direct contradiction to Piny's text, on which all restorations of this monument must be based, but also because they do not agree with his own discoveries. Piny says the pyramid terminated in 'Metacacumen'; Mr. Newton denies this. He says these words mean nothing. Piny says the pyramid and the quadriga equalled the height of the basement; Mr. Newton says they did not, and alters 'altitudo' into 'titutudine' in the text, in order to escape the difficulty. Piny says the cells was 'brevis et foetibus'; Mr. Newton says it was 'practically'—square. His own discovery of the Cymatium moulding with the lions' heads proves incontestably that the intercolumniation was 10 feet 6 inches; Mr. Newton makes it 10 feet. He quotes as a fact Guichard's description of the opening of the tomb, and then, by the restoration, shows that the tale of the tomb is a complete fiction, and so on throughout the whole. It would be tedious to point out the discrepancies that necessarily follow from the above. The real question that interests the public is, is all this necessary? Cannot the Mausoleum be restored in accordance with Piny and the recently-discovered facts? The answer, it appears to me, is, that there is nothing so easy or more certain.

Mr. Newton, who gives no account of his own restoration of the Lion Tomb at Cnidus. Like the Mausoleum, it consists of a square basement, a pteron of columns, a pyramid of steps, and, lastly, a 'Metacacumen,' in the shape of a pedestal supporting the piece of sculpture which was the crown of the whole. It is inconceivable that any one can look on this and not see that it contains the solution of the whole difficulty. On the pyramid at Halicarnassus there must have been a pedestal, according to my restoration, 20 feet by 16 feet in plan, and 12 or 13 feet in height, on which stood the quadriga.\* If any one will draw it out, he will see at once how indispensable it is to architectural effect, but, further than this, it makes all Piny's dimensions clear. Thus:—

	Pl. In.		Pl. In.
The pedestal was .....	13 6	The pteron or order, both according to Piny and the	81 6
The steps of the pyramid were, as Piny says .....	24 8	The basement, the same as the upper part .....	51 3
The quadriga .....	18 4		
Making up Piny's total .....	149 0		

So far, therefore, all is clear and certain.

With regard to horizontal dimensions, if we assume the intercolumniation, as shown by the remains, 10 feet 6 inches, we find that the angle columns were coupled: both the artistic and constructive exigencies of the building require this, and the remains show it. With this and the introduction of the pedestal as above pointed out, any one may now restore the Seventh Wonder of the world, so as not only to be a beautiful building artistically, and in accordance with all we are told of it by the writers of antiquity, but quite unlike the building as restored in this book.

I can conclude this letter without entering my protest against the mode in which it has been published. A five-guinea book might have contained all the information this one does and a great deal more. But in that case only 250 guineas would have been received from the Trustees of the British Museum; by slightly increasing the bulk and more than doubling the price, raising it to twelve guineas, 600 guineas were obtained. The price is not the criterion of the value of the work, or the value of the information the book is supposed to contain.

In the present instance this is not of much consequence, as the originals of all that is valuable are to be seen in the Museum, except the por-

\* I believe the lowest step of the pyramid was 2 feet 6 inches in height.

trait of the author, figured as "A Colossal Lion," plate LXI.—while for a couple of shillings, any one may purchase the blue-book containing all the information of the text. Still, I hold it to be a principle that when a public body subscribes public money, it ought to be to cheapen, and not to enhance, the price of information afforded to the public, nor to assist one of their own servants in what promises to be a successful speculation.

But it is, in this case, worse than this. The fifty copies which the Trustees have taken will be distributed to all the great Museums and Libraries of the Continent, as the one great work of its class which the Government of this country have thought worthy of its patronage, as a model of our town and Art and of the depth of our learning! One slenderer to think how they will exult—how they will laugh at as poor benighted insulars, when they contemplate this wonderful performance brought out under the patronage of the Trustees of the British Museum.

What most foreigners think of the position of Art in England in 1862?

"JAMES FERGUSON."

#### THE PUBLIC SEWERAGE WORKS, WEST HAM.

THE sewerage works for the district of West Ham are now completed, under the direction of Mr. Robert Hamilton, C.E. The first main sewer contract having been let in April, 1859, and the completion of West Ham and the sub-districts of Stratford, West Ham, and Plaistow, and comprises an area of about 4,735 statute acres, according to the parish survey of 1821. The lowest surface area is near Hainville, and is about 4 feet above ordnance datum. The highest surface area is near Forest-gate, and is about 4 feet above ordnance datum. The difference of level within the parish is, therefore, about 41 feet. A considerable portion of the parish is marsh, protected by artificial embankments, from tidal waters and land floods, which rise to a height of from 6 to 10 feet above the surface of the land. The distance from the outlet works to the end of the sewer, near Forest-gate, is about three and a half miles; at Bow-bridge, two and a half miles; in Romford-road, two and three quarter miles; in Barking-road, one mile and three quarters; and in Lilliput-road, Victoria Docks, one mile and a half.

The outlet works consist of a pumping establishment and a low-water or relieving flood-water sewer. The pumping establishment is erected on land purchased by the local board at Canning Town, and consists of an engine-house, boiler-house, coal-store, workshop, and engine chimney, with pumping wells, outlet wells, and outlet pipes.

Two condensing engines (of 40-horse power each) have been provided. Each engine works two pumps, of 48 inches diameter, and 30 inches stroke. The two engines are capable of lifting about 30,000,000 gallons in twenty-four hours. The pumps are so arranged as only to lift to the level of the water in the river. The lowest lift is 8 feet, the highest lift is 22 feet. The inlet and outlet pipes, to and from each set of pumps, are of 36 inches diameter. Self-closing flap-valves are fixed on the outlet pipes at the river walls.

A low-water or relieving flood-water outlet has been formed at Bow Creek, near Barking Road Station. The river Lea at this point is nearly four feet lower than the water of spring tides, and the water of spring tides is nearly four feet lower than the water of spring tides. The outlet works are situated on the river, two self-closing flap-valves, similar to those at the pumping outlet, have been fixed, and, as a precautionary measure, one screw-down sluice has been placed in the manhole in Barking-road.

The larger main sewers are formed of brickwork; smaller sewers are of stone-ware pipes. Cast-iron pipes have been used for crossing navigable rivers, and also for crossing main drains, and for the main outlets.

Brick sewers are egg shaped on section, and vary in size from 5 feet 3 inches by 3 feet 6 inches, to 2 feet by 1 foot 4 inches. The whole of the brickwork is set in the best lime hydraulic mortar. Stone-ware pipes are circular on section, and have half-sectoid joints. Cast-iron pipes are circular on section, and are formed with flange or socket joints. 34,227 lineal yards of brick sewers, 27,094 yards of stone-ware pipe sewers, and 210 yards of cast-iron pipes, making a total of 52,135 lineal yards, or 29 miles 1,065 yards have been constructed and laid within the district.

The sewers throughout the district have been designed with a view of obtaining the best practicable gradients, more especially for tributaries. In some cases, however, it has been necessary to lay the mains with a fall of not more than 1 in 30, or 16 inches per mile.

On plan, they have been laid in straight lines; and on section with regular gradients. At each change in direction, for alteration of gradient, a man-hole or lamp-hole has been constructed. The main outlet sewers in Canning Town have been laid level, and the laterals are formed of cast iron, to allow of their being laid and forced under water.

Considerable difficulties were experienced in the construction of the sewers in some portions of the district, arising from loose, wet, spongy, and other unfavourable descriptions of subsoil. In some of the low districts, the level of the main sewers have been laid with cast-iron invert, at or near the level of low water of spring tides, at the Barking-road outlet.

In a main sewer, under three branches of the river Lea, consist of cast-iron pipes of 2 feet 6 inches, and 2 feet diameter. At each end of these cast-iron pipes under the rivers a manhole is constructed, with screw-down sluices, which may be put down in case of injury to the pipes under the rivers and thus prevent flooding in the low districts. The river crossings were executed by Mr. Munday. By staking over the rivers, joining the pipes, dredging the lines of mains, and lowering each entire length of pipe to its position, stoppage of river traffic was rendered unnecessary, and claims for compensation, which might otherwise have arisen, were, by these arrangements, prevented. Main and branch sewers have been constructed under the rivers, Wrotham, the Barking and Tilbury, and Eastern Counties Railways, in eight separate places.

Finishing arrangements are of three classes—first, by the admission of water into the sewers through manholes, or low pipes; second, by screwing down fixed sluices built in certain manholes, allowing the sewage water to accumulate,

and suddenly raising the sluice; and, third, by inserting loose paddles in the grooves provided in nearly all the manholes. By one or other of these arrangements the whole of the sewers within the district may be flushed.

About 310 feet in length of river wall has been put in, bounding the land belonging to the Local Board. This wall is constructed of brick and concrete, coping with stone.

The district presented several difficulties to the execution of a system of sewers which should be cheap in proportion to the number of inhabitants accommodated, and the value of property to be raised. The low state of the water-level, the subsoil, the treacherous ground on sites (all silt, peat, and quicksand), the extended area, the population grouped in places entirely separate and wide apart, the narrow streets, and great depths of the sewers in some parts, as along West Ham-road, along Romford-road, and in other places; the great traffic on the turnpike turnpikes, crossing marsh ditches, crossing beneath railways running trains at certain times of the day every quarter of an hour, and crossing the river Lea under navigable bridges, offered considerable only to the sewer, but to the expenditure. An increase in the price of bricks to the extent of 25 and 30 per cent., and an advance in wages, caused loss to the early contractors, and added, in the later contracts, to the original estimate.

The total cost of the works has been £202,022.

#### APPLICATION OF CHARCOAL TO SEWER VENTILATORS.

THE Engineer and Medical Officer of Health have reported to the Commissioners of Sewers of the city of London as to the result of experiments in the application of charcoal to the ventilation of sewers, with the view of testing the efficacy of the charcoal in removing the offensive gases which are evolved from the sewers. The experiments were conducted by the Medical Officer on the ventilation of sewers, and on sewer gases, in 1860, wherein he described the powerful oxidizing effect of charcoal as determined by the investigations of Lowitz, Saussure, Thénard, and others, at the beginning of the present century, as well as by the more recent inquiries and practical results obtained by Dr. Stenhouse. All of these tend to prove that charcoal has the power of absorbing and oxidising the miasms of organic decomposition, when, with atmospheric air, they are passed over it. In commenting on these facts, it was remarked that in common wood charcoal there was essentially a powerful means of destroying the foul gases of sewers; and that the practical application of it was fortunately a question of but little embarrassment; for, to use the words of the report, "let the sewers be ventilated as they may, either by open gratings or by the use of the rain water pipes, or by the use of the water-level, or gas lamps, or by tubes carried up at the landlord's expense from the drains of every house, or by especial shafts in the public streets—in fact, let the gases go out of the sewers how they will, and where they will, you have but to place a small lot of charcoal in a few penny worth of charcoal in the course of the draft, and the purification of the air will be complete. As far as we know, the strength and endurance of this power is almost unlimited, so that when once the air filter has been set up, it will last continuously for years. Its action also upon the draft cannot be particularly injurious; and I have no doubt that the temperature of the sewers, and the agencies which are now at work in circulating the air, and ventilating them, will be sufficient to keep up a current of foul air through the filters; and if these were multiplied to a large extent, the friction of the gases upon the filters would be reduced to an insignificant amount."

Acting on this recommendation, and a report from the engineer on the practical capabilities of the suggestion, the court decided that experiments should be made. The district experimented upon is in the eastern portion of the City of London, including a space bounded by the streets of Aldersgate, Fenchurch-lane, Cornhill to Widgeate-street; by Middlesex-street and Somerset-street on the east, to the City boundary; and by the Minories and then by Leadenhall-street to Cornhill on the south; the whole of the main thoroughfares above named being included in the area. It comprises a space of about fifty acres, with about 1,700 houses and about 14,000 inhabitants. The total length of sewers is 35,287 feet, of which 2,081 feet are pipes; the remainder are constructed of brick, varying from 3 feet high by 2 feet wide, to 5 feet high by 3 feet wide, internal dimensions. There were two varieties of mechanical arrangements adopted for applying the charcoal; one consisted of one large slide with compartments, the other of a series of trays for holding the charcoal, and were so constructed as to be capable of being readily removed from the frames into which they fitted.

In conducting the experiments attention was directed to the following points:—1st. The effect of the charcoal on the character of the air, and the time that the same charge of charcoal will continue to deodorise the sewer gases. 2nd. The effect the air filters have on the ventilation and temperature of the sewers. 4th. The exact cost of the experiment, so as to obtain data from which to estimate the probable expense of the process if it were applied to the whole city, or even to the metropolis.

The deodorising power of the charcoal has been satisfactorily proved to be complete. Not only have there been no complaints from the public of stenches from the water, and the sewers, but has been noted by the public, that the odour of the sewer gases is not perceptible when they have traversed the charcoal.

As to the period for which the charcoal will detain its deodorising powers, there is not yet sufficient proof. It appears to lose much of its power with saturation, but in the experiments the trays were not in the experiment more than once from rain. It was found necessary to recharge them about once in three months. It is thought that if the charcoal could be kept dry it would not require renewal oftenener than once in a year.

With respect to the cost of the process.—The expenditure incurred in fitting up 104 ventilating shafts was £218 18s. 5d., which is at the rate of about £2 16s. 6d. per ventilator. An experiment is necessarily more costly than an established system, and it is considered that a much less sum than this may be taken as a fair average of the probable expense of extending the process to the whole of the City.

The total expense of replacement and renewal of damaged trays, frames, and coverings, averaged 10s. 6d. per ventilator per annum. The cost of supervision, supplying, and changing the charcoal, was 8s. 6d. per ventilator, making together 34s. 6d. per ventilator per annum. The cost of the charcoal for replacement was mainly attributable to the repeated breakages of one class of apparatus used, which is not found to be capable of standing the severe traffic of the City thoroughfares.





architect or engineer except within the last twenty years. He then proceeded to state that he had had the honour of being called on to examine and report on the condition of Windsor Castle, in order to see if there was anything in that grant (the £200,000) which was given to the Government in the year of the Prince Consort's death. In 1824 the Legislature voted £200,000 to build a Windsor residence for George IV., and an architect was called in for the purpose. At the end of the reign of William IV., upwards of three-quarters of a million had been expended on the castle, and the Government were obliged to co-operate with the basement of the balling-rampified by drains in all directions, and there was not one window in the grander part of the palace that would open in its upper part. In 1844 plans were made, the sewers were carried out, and he was happy to say that the drainage of the castle had been got all right, his opinion was that Windsor Castle now stood the most complete lavatory in the country, and, probably, in any other, in its sanitary arrangements; and he had no hesitation in saying that that, in a large measure, was due to the great man the nation had recently lost. He said that the drainage of the castle was a subject which, in the first question, worked it to the utmost for the benefit of the poor, and, as it was rich, and paid the most intimate attention to the drainage from 1843 down to the death of his death; and they might be gratified on finding that, humanly speaking, (—hear, hear.) It had not, he believed, been a part of the province of the architect to make the drainage a subject of study as well as the superstructure. He scarcely knew a nobleman's house in the country that had proper sewers, those of the country gentlemen, and the houses of the nobility, and the houses of the houses at the west end of London, the probability was that there were five per cent. or more of these great new houses in which the drains were sewers, though both executed, but no connection. There had been no proper connection between the houses and the drains, and the drains were not connected with the sewers. There was one nobleman's house in the country—Bewdley, the seat of the Marquis of Lansdowne—in which some portion of the drainage was 300 years old, and nine-tenths of the drains had never been connected with the sewers under-

The CHAIRMAN inquired if Mr. Rawlinson's remarks about noblemen's houses in the country having improper drains referred to structures erected within 50 years.

Mr. RAWLINSON said they did, and he might say they applied to buildings erected within twenty years. The arrangements of the sewerage of the Houses of Parliament was as bad as it could be; it was a longitudinal sewer down the middle of the street, rising at every twelve hours. Arrangements for proper ventilation in houses were absolutely wanting. After alluding to the fact by stating that he had paid a visit to a water-closet belonging to the rooms of the Institute, which he found to be badly ventilated. Closets, again, ought to be put against external walls, instead of internal walls, as was the custom at Edinburgh. Mr. Glasgow said that he had been told that the House of Commons was well ventilated, he proceeded to say that, as to ventilation and the arrangement of houses, they had been told that insinuation and nature guided them; but Mr. Goslin had shown that instinct became entirely blunted by use, and people would not believe what they saw. He thought that the question of the sanitary condition of cottages in this country was one of national importance, and it was one which he sincerely hoped the Legislature would take up sooner or later. The Building Act was a dead letter, and so long as that remained the case, no improvement would be made. He brought into play except in cases where tramps slept for a night. The speaker then dwelt on the overcrowding of houses, as was the case at Plymouth, Falmouth, Portsmouth, Newcastle-upon-Tyne, and other places. He pointed out that the same piece of ground was being divided for the accommodation of different families. He next referred to the pigsty question, and observed that more human lives had been lost in this country by pig-keeping and pig-fodder than in all the battles we had fought in the last century. He said that the Government had done nothing to assist the poor people who considered that if greater police harshly to be deprived of their pigs. Now, should they not be saved from danger brought on by their own carelessness and self-will? The question of cottage accommodation was of great importance, and he hoped they would all of them put their shoulders to the wheel, and try to get some remedy adopted. He concluded by making up the great sanitary question in its full bearings—drainage, sewerage, ventilation, lighting—and also the cheapness of structures for the labouring classes, in order that we may have a healthy nation and a more happy and more

Mr. T. HAYTER LEWIS referred to the statement made by Mr. Rawlinson that in many large houses the drains were not connected with the sewers. Now, the making of such connection was not in the province of the architect, but of the authorities of the Sewers Office, who charged for making the same. Therefore the statement about the non-connection between the drains and the sewers ought to be mentioned at the Sewers Office.

Mr. RAWLINSON said he made the statement in all candour and sincerity, and he was afraid that the mischief arose from two parties being connected with the matter. In all his arrangements respecting sewers, and he had made many miles of sewers, he made an entrance for a branch connection, and no fee was charged for any connection.

Dr. H. J. Hays, who says that a better paper, or one containing a larger amount of facts on the subject under consideration, could not have been presented to the Institute. Though he was not prepared to go the length of some members in recommending that measures be presented in the present state of the report, there was no doubt that sanitary measures had been largely extended, and that sickness and deaths to which the population of towns had been subject. He happened to have a portion of the sewerage of the metropolis under his charge, and he was able to give some interesting facts in regard to the same. After a review of the operations of the Local Board of Health of that district, it was found that the sanitary measures had resulted in a reduction of the rate of mortality. He would suggest that the Institute should state some leading principles of sanitary measures, and that the report should be made in the form of one covering, than which there was no other source more conducive to sickness and mortality. When families resided in rooms sickness and deaths were frequent. Great attention should be given to the ventilation of a number of buildings erected in particularly low buildings, in close proximity to each other, and, again, too much attention could not be paid to the condition of the drainage and the water-closets. But unless there was provision made in the

building and to providing proper accommodation, the conveniences were generally missing).

Dr. MINOY drew attention to the subject of the ventilation of rooms and apartments. The point was a strictly structural one, and he had hoped to hear some remarks from architects as to the mode of admitting fresh air into a room, and to the means of expelling the impure air. He was glad to hear that they probably all agreed; the ventilated air rose to the top—therefore the opening for its escape ought to be at the top. But then came the point, where should the fresh air be admitted? He considered that was a point on which they ought to endeavour to come to some agreement. It was a question of commission on that subject. He might refer to the opinion and advice given by the Sanitary Commission of the Army, and they recommended a model hut embracing the important subject of the admission of the fresh air and the escape of the foul air. In that hut, the fresh air was admitted by a window at the top of the wall, and the foul air rose a few inches above the floor. Now, recently he believed that more than one report of the very opposite character was made; and it was the very diversity of opinion that made him keep to that one point—namely, in what part of a room, hospital, or chamber, were to be the right place to introduce the fresh air. It was of the greatest importance to keep a current of fresh air in rooms and hospitals at night. During the period from sundown to sunrise it was by far the most important thing to keep the apartment or chamber airtight, for this reason, that at least room-temperature was maintained, and the great importance was the great importance of maintaining the purity of the air during that time.

[illegible]

The Hon. ARTHUR KINNAIRD, M.P. (having been called upon by the Chancellor) said he had endeavoured to give attention to this sanitary question, and his brother, Lord Kinnauld, had made experiments on the very ground which had been the subject of the Committee's inquiry. He had been very much struck by the necessity to sanitary question, and the longer he lived the more he saw of that vast city in which we resided, and the more he saw of the amount of building that was going on on every side, it seemed to him a matter much to be deplored that science, which with proper management, more rapidly than any other art, could be made to save buildings and put up, and the effort was made vainly to remedy those defects which sanitation had pointed out. Now, he did think meetings such as the present were particularly adapted to draw public attention to the matter, and he thought the more they had the better. The present meeting was the first of the kind in London, and he was likely to be benefited by the improvements which had been suggested that evening. He was talking on Saturday to a gentleman who had built model lodging-houses in the neighbourhood of Bethnal-green, and he said that he thought as a matter of fact, the improvements which had been suggested in the Committee's report, it was a very cruel case that those who built such houses got no help from the Legislature, and he further stated that the rating on his property increased to such an extent as to become a positive check on such improvements. Now, he thought that the Government should be made to consider the matter, and at the moment they improved the class of building they were subject to an amount of taxation which was a positive intellect or check on improvements of that nature. He then went out as a matter worthy of consideration by those present, and he thought the law ought to be changed, and that the Government ought to take the matter into consideration, and make such improvements.

THE CHAIRMAN read an extract from a communication forwarded by Mr. Phipson, in which that gentleman stated that it was a mistake to suppose that the vitiated air always ascended.

Dr. MILROY.—The great object was to ascertain from architects where was the right place to bring in the fresh air.

Mr. ROBERTS (author of the paper which led to this discussion) said if the buildings for the working classes were arranged on the open gallery system instead of the close corridor system, they would not be subject to the taxation which had been referred to by the Hon. Mr. Kinnaid. That had been decided by the judges at chambers, and that was an important fact which ought to be well considered.

Mr. WILLIAM WYKE said in reference to the building of cottages in the country, he had adopted, with very great advantage, quarter bricks for 12-inch walls. In some parts of the country it was usual to build with a common brick, and the walls were 14 inches thick. The quarter bricks were obtained from a quarry in the neighbourhood of the town, and were found to be of a good quality, and it formed a good substance. What he referred to was a heavy earth or gravel. He had built the walls of a house in this manner with as little labour as possible, and he had found that the walls were of a good quality, and he understood that something was to be done in waterclosets and cesspools. There was a clogymen in Dorsetshire who was advocating the mixing of heaps of rubbish and soil of every kind at the bottom of the cesspools, and pulverising it, would absorb from drains all the effluvia and offensive particles, and the same earth could be used for three or four months without being unduly charged with offensive matter.

Mr. EDWARD ROBERTS related to the subject of ventilation, as to where the fresh air should be admitted and where the vitiated air should go out. The foul air did ascend, and there was no doubt all that made a room uncomfortable descended. There should be admitted a sufficient quantity of fresh air at a proper point, and he had found it convenient to admit it by a vertical tube above the heads of the persons in the room. He found the mode of ventilation he had adopted at his offices to be very effective.

This closed the discussion, and shortly afterwards the meeting separated.



## ARCHITECTURAL ASSOCIATION.

A non-regular meeting of this body was held last Friday evening at the rooms in Conduit-street; A. W. BLOW, Esq., M.P., of the Chamber of Commerce, presiding. Mr. BLANCHETT, in the absence of Mr. Smith Smith, hon. secretary, read the minutes of proceedings at the last meeting, which were approved of and confirmed.

**The Library.**—In answer to Mr. BLANCHETT, Mr. C. H. F. Lewis stated that the library in course of formation was to be a lending one, and that subscriptions were being received in aid of binding the books, the committee of the Association having undertaken to provide cases for the same.

**The Chairman** then announced that in the consequence of the absence of Mr. B. A. C. Herring, who was to have read a paper that evening, it would be requisite to adjourn the meeting.

The meeting was accordingly adjourned.

## DECISIONS IN THE COURTS.

## POWER OF VESTRIES TO INQUIRE WATER SUPPLY TO CLOSETS.

*The City of St. Luke's, Middlesex, Appellants, and Lewis, Respondent.*—*Case of Queen's Bench.*—This was a case stated by one of the police magistrates of the Metropolitan Police, under the 70th and 71st Victoria, cap. 41, for the opinion of this Court, upon the question whether the respondent ought to have made an order upon the respondent for the payment of the sum of £12 10s. under these circumstances:—

It appeared the respondent was the owner of the premises in John's-place, Arthur-street, in the parish of St. Luke's, Middlesex, and being the possessor of the Metropolitan Police Act, No. 18, of 1842, and 19th Victoria, cap. 120, and he had been summoned before one of the police magistrates at Clerkenwell, to show cause why an order should not be made upon him, under the provisions of the said Act, to cause the respondent to pay to the vestry of the said parish the sum of £12 10s. being the expense of certain works executed by the said vestry upon the said premises in John's-place. The respondent appeared in answer to the summons, and the magistrate declined to make the order. It was proved before the magistrate that the respondent was the owner of four houses in a court, called John's-place, and that the houses had two privies attached to them. In the early part of the year 1860 condiments were made, and the vestry served upon the respondent a notice to do certain works, which he complied with, so far as to fix joints to the closets, but he not providing water-closets under the 14th of July, 1860, the surveyor of the vestry gave the respondent notice, and then proceeded to inspect his premises, and opened the drains passing under the footway pavement and connecting with the drains which were found to be choked and blocked up. The drains were cleaned and put in order at the expense of the vestry, and on the 21st of August the vestry served upon the respondent a further notice, requiring him to provide water supply to the two privies within six days to the satisfaction of the vestry; and that in case of his refusal or neglect the vestry would cause the same to be constructed, and would proceed to recover the expenses in the manner provided by the Act. No attention was paid by the respondent to this notice, and they accordingly, on the 26th of November, 1860, served upon him another notice of their intention, after 24 hours, to enter the respondent's premises and execute certain works, which they accordingly did on the 1st of December. They then proceeded to take down the privies, remove the roof, and laid three courses of brickwork on the upper side of pitch throff, for the purpose of constructing a level bed for the water-closets, and then proceeded to lay down the pipes for connecting the closets with the pipes of the water supply and with the pans of the closets, and fixed new seats in the privies. The expense of these works amounted to the sum of £12 10s., the payment of which the vestry then sought to enforce by summoning the respondent before the magistrate. The magistrate, however, was of opinion that, having regard to the Metropolitan Local Management Act, and particularly to the 8th, 8th, and 10th sections, under which the vestry was empowered to have the closets removed, and to convert a privy into a water-closet, by providing water supply thereto, as had been done in this instance; but that, if the privy was not sufficient, the vestry had no right to remove the privies to make it so, and, if the privy was removed, the vestry was bound to make it sufficient by doing such works as were required, and then to recover the expense incurred from the respondent. The magistrate also stated that he thought he was supported in his opinion by the decision of the *Lords Justices* in the case of "Thacker v. the Wandsworth District Board of Works" (27 L. J. Ch. 424). He accordingly declined to make an order for the payment of the £12 10s.; but, at the request of the vestry, he stated the present case for the opinion of this Court upon the question whether he ought to have made an order.

Lord Chief Justice Cockburn said he was of opinion that the decision of the magistrate was erroneous. The question turned upon the construction of the 8th section, which enacted that "if at any time it appears to the vestry of any parish or ward, or to the district, that any house in any parish or district, whether built before or after the commencement of this Act, is without a sufficient water-closet, or privy, and subpit, or privy, and subpit, and with other apparatus and works as aforesaid, the vestry or district board shall, in case the same can be provided without disturbing any building, give notice in writing to the owner or occupier of such house, requiring him forthwith, or within such time as may be specified in such notice, to provide a sufficient water-closet or privy, and subpit, so furnished as aforesaid, or either of them, as the case may require, &c." The respondent admitted that the vestry had given notice to the respondent to provide a sufficient water-closet or privy, and subpit, and that the vestry had converted a privy to a water-closet. His Lordship, however, thought the vestry or district board had that discretion vested in them, to determine whether or not "any house" should be "without a sufficient water-closet or privy." The vestry or district board had power to require the owner or occupier to provide "a sufficient water-closet or privy, &c." or "a sufficient water-closet or privy, and subpit, &c." and that it should be so, for there might be cases where the privy could not be so altered as to meet the necessities of the case. It might be that the buildings were so crowded that the vestry, merely in order to the application of water to carry the soil into the regular sewer. Upon the whole, his Lordship thought the vestry ought to have that discretion, and that the Act of Parliament vested it in them, and that the magistrate ought to have made the order.

Mr. Justice Wightman was of the same opinion, and said the case of "Thacker v. the Wandsworth District Board of Works" was distinguishable, because in that case the local board had declared their intention to do away with all privies, and had issued a general order applicable to a number of houses without any regard to whether the privies were sufficient or not. But, in the present case, the application of water to carry the soil into the regular sewer, was not the case.

Mr. Justice Crompton was of the same opinion, but added that, in some cases a question might arise, on the works "without disturbing any building," as to what amounted to "disturbing a building," and he thought that the vestry or district board, when they agreed that the vestry had the power under the Act to order the supply of water.

The judgment of the Court was that the case be remitted to the magistrate, with the opinion of the Court.

**THE EXHIBITION APPROACHES.**—One of the openings towards the International Exhibition, recently insisted on as an absolute necessity by Sir Richard Mayne, has been secured by the Chelsea Vestry. The passage from Eaton-square to Stann-square will be widened, so as to be rendered available for the increase of public traffic by that line of road.

## Reviews.

## Journal of the British Archaeological Association.

THE last quarterly journal of this Association, a paper on Lillishall Abbey, by Mr. M. BURGESS, F.R.S.A. Lillishall, it will be remembered, was one of the places visited during the Shrewsbury Congress. Mr. Roberts gives a plan of the remains, so far as they can be traced, and illustrations of a late Norman doorway, from the cloisters to the church, and of the south side of the refectory.

The church itself consisted of nave and choir, together about 225 feet long by 31 feet wide. There was a north and south transept; south of the latter is the sacristy, then the treasury, and south of that the chapter-house.

We believe that Mr. Roberts is now preparing for publication an elaborate and accurate account of the interesting remains of Wenlock Priory, in the same country.

## The Ecclesiologist.

FOR February, gives the concluding part of Mr. Street's lecture on "Italian Pointed Architecture," some notes on the works at Queen's College, Cambridge, and a statement of doings at Ely Cathedral, lately noticed in our pages. Mr. W. BURGESS contributes, in a letter, "Supplementary Notes on Florence," as addenda to his paper on that city; there is also a notice of All Saints' Church, Hawkhurst. In addition to this list, we mention photographs of an internal view and plan of Mr. Joseph Church's Point de l'Église Church, at Ceylon, a bird's-eye view of St. Mary's Church, Harlow, by Mr. W. Burgess, and a notice of the purely architectural material contained in the present number of our contemporary.

**A Letter Addressed to Both Houses of Parliament.** By E. W. OLDHAM, Senior. Knight and Co., Worcester.

THIS is a pamphlet which has produced the first practical plan for the Thames Embankment (in 1845), and, at the same time, a plan of sewer drainage, which it is contended is now being carried out upon wrong principles. It is not easy to see how the "Royal Sacrifice," referring, it is presumed, to the death of the late Prince Consort, is connected with, or was attributable to, our sewerage works, but the writer finds in it "a warning voice of the unspeakable and horrible effects that must certainly follow."

There is something, however, in a point on which the author strongly insists, the necessity of connecting sewers and drains water-tight in the upper as well as lower portions. It is asked—

How many acres of miles there are of the immense network of small drains running up main streets and lanes of houses, and the water-tight point of the main sewer, and, therefore, exempt by law from being made in the smallest degree water-tight? Thus all the springs are running directly or indirectly into them; and all the wells or drains which have a level of more than three feet above the main sewer, will draw all their water directly from the sewer drains. Now, if they were made water-tight, much could not take place. Where I was living in London for many months, I have seen a drain which, after being introduced into the main drain, yet its return at the upper end of the streets kept up clear of all surface water; thus, the water of the well came from the pump; to the tea-kettle, thence to the closet, and thence to the pump again to the pump, until we had one day the occurrence or accident of the preceding.

## The Artizan.

THIS January and February numbers of this work are before us, the latter giving, in a large folding sheet, and in a tabulated form, an account of the performances of six vessels under various circumstances. "Practical Papers for Practical Men" treats of bridge platforms, "Notes and Formulae for Engineers" gives a large amount of information, and there are some interesting papers on the Strength of Materials. The proceedings of the engineering societies are fully reported.

Mr. Tite's address on "Current Topics," delivered before the Institute last year, is concluded in the part for January.

**Description of Edward Finch's Proposed Improvements in the Metropolis.** Wilcox: Royal Exchange.

A CORRODING to these plans, which were submitted to Lord John Manners and to the Board of Works, in 1858, and placed before the Thames Embankment Commission in 1860, the author proposes two improvements:—one relating to the changes and improvements in the River Thames, the other to the disposal of the whole of the sewage of the city of London and its suburbs.

On looking at a map of London and its environs, it will be seen that the river Thames at Greenwich, at about eight miles from the city, is a narrow stream, and that for nearly two miles till it gets to Limehouse, there it forms another sharp bend, then it goes on in an irregularly-shaped line for about four miles until it gets to a point between Waterloo and Hungerford bridges, where it bends right-angled into the main drain, and then goes on about a mile and three-quarters until it reaches Nine-elms, there it forms another bend and goes on to Chelsea. These four bends cause the portion of the river extending from Greenwich up to Vauxhall-bridge to form three sides of an irregularly-shaped loop enclosing the city of London.

It is proposed to cut off this portion of the river, commencing at about Deptford-creek and terminating at about Nine-elms, and form it into an extensive lake or dock seven miles and three-quarters long. By putting gates across the river at a point a little above Greenwich, and at Nine-elms, it is proposed to prevent river boats and the upper or Vauxhall end of this great lake to place smaller boats, adapted for barges, river steamers, and small vessels to go through. These gates or locks would be connected by masonry to the shores of the river on each side, and so to retain the water in the lake always at one uniform level or thereabouts.

It is further proposed to cut an entirely new bed for the river, commencing a little above the upper gates of the new lake at about Nine-elms, and to carry it in a straight line nearly as parallel to Greenwich, and it is proposed to cut the present river bed, immediately below the lower gates of the new lake, at a point about Deptford-creek. This new river bed will probably cross the Kensington oval, the line direction of the Survey canal for some distance, and then go on to the point described; in the future district, the water will be carried in a straight line, treatment, and disposal of the sewage, it is proposed to make, on the north side of the river, an intercepting main drain, that shall take pretty nearly the direction of the river at present takes, and that shall catch all the main drains that now





## THE ALBERT MEMORIAL.



Y LORD,—I have had the honour of receiving, and of submitting to the Queen, your lordship's letter of the 18th inst., communicating the proceedings which have taken place with the view to the erection of a national memorial monument to the much lamented Prince Consort.

The Queen feels grateful from the bottom of her heart for the universal sympathy that has been expressed for her in her deep affliction. But it is still more soothing to her feelings to know that the noble character, the truly princely nature of him whose loss has bowed her to the earth with a sense of desolation and misery that every day, alas! serves only to increase, is appreciated by the country; that the benefits he has been instrumental in conferring on the nation, the good he has brought, since his first came amongst us, to effect which he may be truly said alone to have lived—are understood and acknowledged.

The Queen is also much touched by the feeling which has led the promoters of the movement for erecting a national monument to the Prince to leave the nature of that monument to her decision. It is a subject on which there must be necessarily some difference of opinion. Many, influenced doubtless by the belief that there was nothing which the Prince himself had so deeply and constantly at heart as the promotion of whatever might tend to the advantage of the community at large, or any portion of it, have thought that the most appropriate monument to his memory would be to commemorate his name with some great work that should have that end in view; and the Queen cannot but be gratified by this proof of a just appreciation of his character.

But it would probably be difficult to procure any like agreement as to the nature of the institution which should thus bear his honoured name, and it would be inexpressibly painful to the Queen were any controversy to arise on such a subject.

It would be also more in accordance with her own feelings, and she believes with those of the country in general, that the monument should be more directly personal to its object—should be, in fact, more than what is commonly indicated by the word. Even so, it is probable that opinions may differ as to the character that would be most appropriate for such a monument.

But the Queen is confident that the same good feeling which has led to the reference of the subject for her decision will lead to a cordial acquiescence in it, to the cheerful abandonment of individual views, and to a unanimous working together to effect the object all have at heart.

After giving the subject her best consideration, her Majesty has come to the conclusion that nothing would be more appropriate, provided it is on a scale of sufficient grandeur, than an obelisk to be erected in Hyde-park, on the site of the Great Exhibition of 1851, or on some spot immediately contiguous to it; nor would any proposal that could be made be more gratifying to the Queen personally, for she can never forget that the Prince himself had highly approved of the idea of a memorial of this character being raised on the same spot in remembrance of the Great Exhibition.

There would also be this advantage in a monument of this nature, that several of the highest artists of the day might take part in its execution, for there would be room enough at its base for various groups of statuary, each of which might be entrusted to a different artist.

In the selection of the artists to be employed in the choice of a design, and in the considerations of the details of execution, the Queen would wish to obtain the best advice, and she would therefore desire to call to her assistance a small committee, consisting of persons in whom she could feel satisfied that the country would repose entire confidence.

I have written, by her Majesty's commands, to those whose assistance she thus desires to obtain, and will lose no time, as soon as I have received their answers, in communicating their names to your lordship.

I have the honour to be, &c.  
C. GRET.

Mr LORD,—The Queen wishes me to add a few words to the answer to your letter, which you will receive with this, expressive in a more especial manner of her Majesty's personal wishes.

She is aware that she could not with any propriety contribute, as a wife, to a monument to her husband; but she is also the Sovereign of

this great empire, and, as such, she cannot but think she may be allowed to join with the nation in the expression of a nation's gratitude to one to whom it owes so much.

Who has a dearer interest than the Queen in the well-being and the happiness of the people? And if it has pleased God to make her reign so far happy and prosperous, to whom, under Divine Providence, is this so much owing, as to her beloved husband—in all matters of doubt or difficulty her wise counsel, her unfailing guide and support?

No one can know, as the Queen knows, how his every thought was devoted to the country—how his only aim was to improve the condition of the people, and to promote their best interests. Indeed, his untiring exertions in furtherance of these objects tended, in all probability, to shorten his precious life.

Surely, then, it will not be out of place that, following the movement of her people, the Queen should be allowed to consider how she may best take part with them in doing honour to her beloved Prince, as that the proposed monument may be recorded to future ages as reared by the Queen and people of a grateful country to the memory of its benefactor.

I have the honour to be, &c.  
C. GRET.

Osborne, Feb. 19, 1862.

The Right Hon. the Lord Mayor, &c.

Thus does the Queen of England speak to her people.

It was for a considerable time a matter for regret with a large number of men that the Committee entrusted with the fund for rearing a suitable monument to the late Prince Consort neglected, at the first mention of the proposal, to state distinctly the form which the memorial was to take. Scheme after scheme has, in consequence of this neglect, been paraded before the public, backed by zealous advocates, and gathering together many partisans—all of whom were likely to take umbrage if their energies in favour of charitable gratitude were thrown away. The uncertainty long continued, in which the subscribers were kept, fostered all kinds of wild suggestions, and made them painfully prominent; at length, as might have been anticipated, suggestions were launched for dividing the collected sum, in order to satisfy the many claimants for means to commemorate the illustrious patron of the several bodies. It is true that the "monumental character" of the memorial was, at the first meeting, spoken of, but it was the uttered opinion of an individual only, and it was not given by authority of the immediate and responsible promoters. Nothing, perhaps, shows more fully the esteem in which the Prince Consort was held, and the deep sympathy which all classes of English men feel for our widowed Queen, than the fact that so large a sum has been raised without other than a general object of preserving to future ages some record of the blameless Prince. But the decision of the Committee occasioned regret, that regret was deepened when it became known that the members composing it were about to shift their responsibility on to the shoulders of the Queen, and to interpose her Majesty between the Committee and any dissatisfaction which the decision might occasion. Every one has read of the amiable and loving regard with which the Queen cherishes every institution which her husband toiled for. The pardonable bias with which she might lean to aught which he loved and patronised was remembered with anxiety. The guardians of these countless institutions had not been slow to make known their wants and wishes. It was in vain that they pleaded the judgment of the Queen, and prompted her to scatter this Memorial Fund broadcast over many charitable institutions, we could scarcely have been surprised. The temptation was great, perhaps, for the wife to relieve, in memory of her husband, the sorrows which he ministered to; but the Queen of England has soared above the embarrassing and wrong position in which she was thoughtlessly placed by the Committee, and in the most touching letters which were ever addressed by a sovereign to its subjects, makes her decision known, and directs our onward course. Instinctively she appears to have seen the difficulty of agreement in any so-called utilitarian scheme, whilst acknowledging the just appreciation of his character which have prompted suggestions in that direction. After giving the subject her best consideration, her Majesty has declared in favour of an obelisk, with groups of statuary at the base, each of which might be entrusted to a different artist. To choose a design, and in the consideration of the details of execution, the Queen will call to her assistance a small committee. The form of the monument being now definitely settled, we hope we shall have no more discussion on that point, but that the artists will be allowed to make the monument, by its display of art as well as by its grandeur, worthy of the Prince's noble character, and also of "the Queen and people of a grateful country," who thereby honour its benefactor.

An obelisk is, perhaps, the oldest as well as the most enduring form of monument which could have been chosen. We have not, it is true, been particularly happy in our culture of the idea in England. The obelisks in the Fleet valley and in the Blackfriars-road alone ample

scope for improvement; but it must be admitted that our other public monuments are equally unsatisfactory. We believe the miserable results have been more owing to official interference and to bad subjects than to artistic incapacity. Our English sculptors are equal to any which other nations now can show, even if we reckon Baron Marochetti a foreigner. Foley's statue of Lord Hardinge alone is enough to point to for evidence of our skill in equestrian statues; Gibson's bas-reliefs will hold their own against the chiselled marble of any modern nation; and numerous other Englishmen may, by merit only, take a foremost place when occasion demands Art's tribute to a great and glorious Prince.

As every one knows, ancient Egypt has supplied nearly all the obelisks which have been reared in our modern cities, and more than one-half of those transported from the valley of the Nile are to be seen in Rome; but they have all, more or less, this defect, that they speak of the death of the nation which so far disregarded her antiquities as to banish or barter them away. Their mystic characters preach no lesson to the people. The modern inscriptions occasionally found out upon them tell us that they have been dragged to their present sites to gratify a conqueror's vanity. That in the space in front of St. Peter's is put ignobly to serve as a monument to a monster dead. None of them even the "patriotic title" as does Banti's group in honour of the Great Frederick, or the Napoleon Column in the Place Vendôme. They are weak and spiritless, not because they are obelisks, but because they were designed for one purpose, and devoted ignorantly to another.

In the Albert memorial we have an opportunity, then, of making the obelisk a monument expressive of English feeling, and of the state which art has arrived at in this nineteenth century. For the first time since the days of the Pharaohs, with one or two insignificant exceptions, a stupendous obelisk will be designed and carved instead of being simply erected, and it will record the sorrow which was endured by a Queen and her people for a great loss in place of the gratified vanity which conquest had begotten.

It is well for us to consider beforehand how we are prepared to execute this work. As regards material, we may dispense with a special stone committee, and thus avoid all necessity for patented preservative silicates. Upon granite and bronze we can hand down our Prince's memory. There are quarries near Liskeard and Penzance where monoliths may be procured at least 100 feet in length and 10 or 12 feet square. Aberdeen can supply us with a variety of granite we desire coloured, ornamental accessories. When an obelisk is decided upon, it will not, we presume, be a simple monolith on a square pedestal, with sculptured bas-reliefs. Groups of sculpture will surround the base, and with these we must try to make conspicuous the various attributes of him in whose honour the monument is built. We know with what riches the pyramid or Mausoleum was encircled. We would have the Albert memorial equally famous and equally deserving of such fame. But the great difficulties will be more in the preparation of the general design than of the sculptured portions of it. Our sculptors are, we believe, fully equal to the latter undertaking, but we doubt their ability to execute the former satisfactorily. The architecture of *sculptors' monuments* is almost invariably bad, for the simple reason that sculptors have not now-a-days the time, even if they have the inclination, to study the sister art. They regard architecture as a musician looks upon the libretto of his opera—as a simple material for the display of his abilities, to which it must, of course, be subservient.

We trust that the Committee which her Majesty will call to aid her in selecting a design, will not fall into an error of this description; that they will recollect that in all the greatest works of antiquity, architects were associated with sculptors. Phidias could deck the Temple of Minerva with priceless sculpture, but it was out of his power to design that majestic framework for it, which even now, despoiled by time and man, stands in melancholy grandeur, the glorious crown upon the Hill of Mars. There have been sculptors, we admit, who were likewise great architects and distinguished painters, but Michel Angelo is not to be had by asking for them, and assuredly we shall find no men of equal calibre in modern London. We shall be content if the work be well done by several hands, and if different minds can be brought to labour at one design. Moreover, a wish is expressed in her Majesty's letter that more than one sculptor shall be employed upon the memorial. We foresee considerable confusion and much superfluity if one of these gentlemen should be exalted above his fellows by being entrusted with the conception of the main design for the monument. The difficulty of selecting a sculptor to do that portion of the work would be great.

The preparation of the design lies undoubtedly within an architect's province, and he certainly ought to be best able, on account of his training, to do it. We would not forbid a sculptor trying his hand at it, but at the same time we would suggest that a preliminary competition, limited or unlimited, as the Committee may decide, should take place amongst architects for the general arrangement of the memorial;

it should be distinctly understood that the position of the sculptured groups &c., was also to be shown, that it was not a competition for the sculptured work alone, but simply and solely for the shell of the monument, without reference to the detail of the sculpture which was afterwards to adorn it. The bestowal of commissions upon the different sculptors would follow, as a natural consequence, the selection of the architectural design, and all would work harmoniously together to show the world that the right men are not wanting in England when a great event demands their services, and that the Prince who in life watched for every opportunity to benefit the people, and to infuse into them the sweet influence of art, would in death not only awaken in the people's breasts appreciation of his noble character, but stimulate our artists to rear in England one good monument to the one Prince who has been worthy of it; a monument which would deserve to be inscribed with the closing words of the Queen's letter, and tell to future ages that it was "reared by the Queen and people of a grateful country to the memory of its benefactor."

Her Majesty has named the Earls of Derby and Clarendon, Sir Charles Eastlake, and the Right Hon. William Cubitt, to form the Committee referred to.

#### "THOUGHTS ON DESIGNING A PICTURE GALLERY."

A DIFFICULT thing to design is, consequently, generally a good thing to design. The very difficulty begets extra thoughts and extra work, and that extra thought and work brings out additional skill. Moreover, if the circumstances are such that the usual decorations should be dispensed with, so much the better, at least for once, for the way is then left open for the use of decorations of an unusual kind; and if the difficulty in designing comes from the difficulties of planning or arrangement, the best mode of arrangement is still a matter of differing opinion among authorities on the subject, still more interesting is the task; and more interesting still does it become if the object of the building is one in which our education and favourite studies cause us to take a deep interest.

These thoughts have arisen while thinking on the subject of picture galleries, of the difficulties, both in design and arrangement, which they present—and yet on the many great and unusual facilities they afford for original treatment, and unusual materials, modes, and degrees of decoration.

We will first enter briefly into the best mode of lighting, which so intimately concerns the external architectural treatment, and the best mode of dividing and arranging the pictures, which so much affects the mode of lighting. The great authorities differ much, but the majority seem to agree upon one important principle, namely, that the window or light by which a picture is seen, and the picture itself, ought not to come within the range of vision at the same time; and yet, although the fullest development of this principle was practically carried out many years ago in a building erected expressly for the temporary exhibition of a collection of the pictures of Sir Benjamin West, and has since been carried out in one or two private galleries, yet out of all the large public galleries of Europe, there is but one room that is erected for the purpose of giving the pictures therein exhibited the most favourable light possible in accordance with this principle.

The galleries of Berlin and Vienna are lighted with side lights. The Louvre is partly lighted in one manner and partly in the other. Our National Gallery and Royal Academy rooms, and those at South Kensington, are lighted from above. The older Pinacotheca, at Munich, is a well lighted and well arranged picture gallery, and, for ordinary purposes, a very good mode to keep in mind. This combination of modes—often a wise course when authorities differ. In the same building we find the large saloons lighted from above, and the small cabinets lighted from the side. At the new gallery at Dresden the same system has been carried out; the larger pictures are lighted from above, and the smaller cabinet pictures from the side.

But, as mentioned above, there is one particular room of one gallery in Europe where the principle so successful in the advantageous display of Sir Benjamin West's pictures, and which, in a different form, was used some time ago for a temporary exhibition at Rome, has been permanently and successfully carried out. This is in the art gallery of Munich. The ex-King Ludwig knows well what is good both in art and in pictures, and is sure to have whatever will show them to the greatest advantage.

The gallery where it has been adopted is the new Pinacotheca, a building erected and expressly set apart for modern pictures, whereas the older Pinacotheca contains the older masters only. The room returned to be occupied by the pictures of the landscape painter Hans Holbein the younger in Greece by the command of King Ludwig; and the mode of lighting employed seems much the same as that described by Messrs. Papworth in their valuable little work on the subject.\*

The principle of not seeing the pictures and the source from which the light is obtained at the same time is effected by means of a screen or wall supported by columns. These, the light is directed downwards, so that in which picture galleries are lighted; whether this last mode is so great an improvement as to make up for the inconvenience of the columns, may be doubtful, they are not, however, necessary; a suspended rod, as suggested

\* Museums, Libraries, and Picture Galleries, &c." John W. Papworth and Wylsh Papworth.

by Messrs. Papworth, or a suspended screen, as used at the Exhibition at Liverpool, would answer the purpose equally well.

The division and arrangement of the pictures have also much to do with the arrangement of the gallery, and consequently with the exterior decoration. In the older Pinacotheca at Munich, the paintings are grouped according to schools, and in this gallery is a most useful arrangement which might well be adopted in other galleries. A corridor runs the whole length of the building, 430 feet, so that whatever particular school you may wish to study you can go to at once, without going all through the rooms.

Another admirable plan is adopted in this gallery, that of setting apart a room close to the entrance devoted to the exhibition of new acquisitions, so that the crowding to see the latest new arrival does not annoy those who are enjoying the older pictures.

This building contains grand staircases, entrance saloon, room for new acquisitions, curator's room, and copying room. The ground floor is set apart for engravings, terra cotta, and mosaic, and paintings. The paintings, these are mostly very beautiful copies by Munich artists of the pictures in the gallery.

The picture galleries upstairs are appropriated to the different schools of the old masters, in the following manner:—Italian, three large rooms, of them 93 feet long, three cabinets opening out of them, lighted, by side windows; ancient German school, one large room, and three cabinets; old Flemish school, one large room and three cabinets; more recent Flemish school, three large rooms, and showing how well the mode most suited to a particular size and school is applied; ten cabinets are devoted to the small and minutely finished pictures of this school. The French and Spanish share together one large room and three small cabinets.

Such are some of the leading features in the arrangements of some principal galleries in Europe, that stand for our models and as tests of the success of any particular principle that their promoters may have thought best to attain the end they had in view. The different architectural treatment depends much on which of these modes, both of lighting and arrangement of pictures is selected. If the mode of lighting selected be that used at Berlin and Vienna—that of lateral lighting—the windows become the principal objects in the composition, as is usually the case in our modern buildings, to whatever purpose they may be devoted; and a picture gallery that does not necessarily differ in external appearance from any other building, public or private, is selected; but for our National Gallery, that is, of lighting from above, the building has naturally to be treated in a way different from all ordinary buildings in northern countries, but gains this advantage if properly treated, that it can scarcely fail of telling everybody its special purpose.

But if the mode to be seen at Munich and Dresden of lighting, and of dividing the pictures into small, and placing them in rooms lighted entirely from above and thus the pictures be displayed in the best treatment which the architect has at his disposal depends, at least, upon three circumstances:—

1. The number of the small pictures.
2. The point of the compass which is thought best or the lateral lights or windows to face.

The nature of the site, and the choice of the architect as to whether he will have in his principal front the usual ornamentation of windows, or the peculiar effect in our country associated with picture galleries of some kind of wall decoration.

For, in the first case, suppose that the smaller pictures are so numerous that cabinets lighted by lateral lights are necessary on both sides of the building, then the external treatment becomes the same as if the lateral system of light was alone adopted. But the number of small pictures is usually such as to need the small laterally lighted cabinets on one side, then the architect has two sides that must be treated differently, but which side he would select for decoration by the fenestration, or which for some kind of wall decoration, would depend on circumstances. In the older Pinacotheca this is determined by a northern light being chosen for the windows of the cabinets. The last has been chosen for the principal front, which is, therefore, an ordinary looking building, which might be, from its appearance, almost anything else as well as a picture gallery.

But the third, that of the circumstance of site, will necessarily much affect the decoration of these double lighted galleries. If in a position like that of our National Gallery and many buildings in London and other large cities, one side of the building is so closed in by houses that all hope of a good lateral light is impossible, the principal and only feasible looking into an open space must, in such a case, be the one lighted by windows, and its decoration, as usual, influenced by them, so that really we get out of the three modes of lighting—1. That of lighting from above alone. 2. That of lighting from the side alone. And 3. That of combining in the same building the two principles for different kinds of pictures, but two modes of treatment for the exterior of these buildings, one peculiar to these buildings alone, and the other not. The third, that of a building having two principal façades, telling on one side that behind its wall are large pictures which it is considered by its architect are best seen by a top light, and the other that the same building contains smaller pictures displayed by a lateral light, is an exceptional case not often met with. And existing examples point to this; for of two of the buildings which combine the two modes of lighting, the two Pinacotheca at Munich; in one—the older Pinacotheca—the cabinet or window side of the building is the principal façade; and in the other—the new Pinacotheca—the large room or blank wall side has been selected as the grand front, and is appropriately adorned by a series of frescoes by Kaulbach. Certainly the new Pinacotheca is by far the

most striking building of the two, and bears on its walls much more clearly the nature which the interior fulfils.

With regard to the external architectural treatment, after the mode of lighting and arrangement has been well considered and decided upon. Let us take the case of a picture gallery in which the system of lighting from above has been selected, as it gives by far more scope for treating the building in a way different in manner to most ordinary buildings; and, of course, whatever applies to this case applies equally to the case where the blank side of a twofold lighted gallery is chosen for the principal front. The first thought of an architect, is, what a splendid opportunity is here offered for an unusual display of both sculpture and painting! But, alas, our climate! and the fading nature of the most enduring fresco! He remembers this, and asks, why in old times the Early Christians could afford to have their basilicas covered with pictures in mosaics; why St. Mark's at Venice is covered within and without with this beautiful, artistic, and everlasting ornament; while we have not a single specimen of such appropriate out-door ornament in all our costly buildings. If the ancient kind of mosaic is so costly, is there no advantage that the manufacturer of pottery, transferring and ingenious as they are, can think of, possessing the durability of the old mosaics, with, at least, some of their delicacy and beauty? Such a mode of out-door adornment for tympanums of arches and other wall spaces seems to be a desideratum.

The subjects chosen and the principle adopted in the new gallery at Dresden will show what scope there is in this assistance naturally suggested by its contents for the artistic ornamentation of a picture gallery with first-rate sculpture; we find among the series of statues and bas-reliefs are Hercules, Perseus, Jason and Theseus, Prometheus and Pygmalion, Orpheus and Amphion, Homer and Hesiod, Apollo and Pindus, Lyssippus and Alexander. On another front the Patriarchs and Prophets of the old covenant, and the Apostles and Evangelists of the new with the artists who have so nobly depicted them, Michel Angelo and Raffaele; while on another part of the same front are the statues of Holbein, Giotto, Dante, Goethe, &c., &c. This is truly a good example, and the country that produces such a building will, besides the building, long reap the benefit of it, for a work containing such a mass of figure sculpture, is one of the best schools of art that a country can have, and it is not, in this way, the purpose and design of the building written most forcibly on its walls?

The exterior of Sir Robert Peel's picture gallery at Drayton Manor, designed by Mr. Sidney Smirke, is a good example of the artistic treatment of the exterior of a picture gallery lighted from above, its exterior is embellished with colossal statues of Rubens, Vandijk, Sir Joshua Reynolds, and Sir Thomas Lawrence.

A picture gallery without windows at the sides can be made unusually beautiful, but this can only be the case when a totally different mode of treatment is adopted from what would be the case if it was lighted by windows; a great variety of modes is open to the designer—coloured materials, painted mosaics, sculpture, bas-reliefs, niches expressly formed for and filled by statues, chosen appropriately for the occasion; any means of ornamenting, in fact, that the architect likes, except "blank windows."

R. D.

## THE BUILDERS' BALL.

AS briefly intimated in our last, the annual ball in aid of the funds of the Builders' Benevolent Institution, took place at Willis's Rooms on Thursday, the 30th inst., under the patronage of the Right Hon. the Lord Mayor, who was present, attended by Mr. Sheriff Cockerell and Mr. Sheriff Twentymann. Many influential contractors were present, and the Rooms were crowded for the greater part of the evening. We believe that an addition of something like £120 to the funds of the Institution is one of the results of these annual gatherings.

## MANCHESTER ARCHITECTURAL ASSOCIATION.

AN annual meeting of this Association was held on the evening of Wednesday, February 19th, at the Rooms, George-street, the Vice-President in the chair.

After going through the minutes of the previous meeting the Chairman called upon Mr. Alfred Darbyshire to read a paper on the subject of Irish Antiquities, being the result of a recent tour through that country.

In speaking of the present state of the Irish metropolis, the writer called attention to the violations of æsthetic principles displayed in many of the public buildings and monuments, but at the same time referred to the number and extent of the ruins, and to the breadth of the streets as points worthy of emulation in other cities.

After describing the various antiquities of Killynure and county Wicklow, Mr. Darbyshire concluded by giving a detailed account of the famous round tower and seven churches of Glendalough.

The paper was illustrated with diagrams and sketches. A discussion followed upon that *quæstio verax* of antiquaries, the round towers and their original use.

## THE COLSTON HALL COMPETITION.

WE have received several communications, couched in no measured terms, with reference to this competition. There seems to be a very general opinion that the whole of the drawings submitted should be publicly exhibited; the Committee would do well to accede to this desire, if only in their own justification.





## THE REMOVAL OF THE MUSEUM COLLECTIONS TO SOUTH KENSINGTON.

THE principle of exhibition, adverted to in our last, is by typical arrangement. In the arrangement this implies a selection of such specimens as may be sufficient to illustrate the main points of interest found in connection with particular groups of animals. There would be an outline of the classification of the animal kingdom, giving such a display of the more prominent divisions of form and colour as would be calculated to strike the casual observer.

This limited exhibition is the only one that can be of real service to the mass of the people, who can take a holiday only by the sacrifice of a day's earnings. We should be glad, indeed, to hail any prospect, however distant, of the number of public holidays being increased. Philanthropy would find an ample field for its labours in the direction of the man who should be fortunate enough to originate any plan for adding to the opportunities of harmless recreation within reach of the working classes, would be worthily regarded as an eminent public benefactor. If we are sincerely anxious to benefit the people, we should endeavour to place before them, as compactly as possible, the things we have to show, and moreover, bring the exhibition within the compass of a not too fatiguing day's work.

If the Trustees would authorise the Keeper of Zoology to arrange the Bird Gallery on the typical plan by way of experiment, the public would then be able to judge of the effect. The better to exemplify what is meant by "typical" arrangement, we may take the family of Corvidæ. Thus, as types of species within this group, we should have a crow, a rook, a jackdaw, and a raven, without attempting to represent by mounted specimens all the crows, all the rooks, all the jackdaws, and all the ravens in the world. These, and analogous varieties of other birds, would, nevertheless, be carefully preserved, unmounted and stored away in drawers, to be forthcoming (under proper restrictions) at the demand of the scientific student. Naturalists prefer to have an unmounted specimen to handle and examine, and themselves keep their own collections in drawers glazed at the top. Constant exposure to light is found to be most injurious to the bright colouring of birds' plumage, and peculiarly so in the delicate tints of shells and insects. In fact all objects are affected more or less, save only the birds above alluded to, which remain black for ever. Our present system ruins objects by exposure, and calls for perpetual expense to supply the place of worn-out and defective specimens.

Out of 2,000 genera of birds, in many of which the differences are as trifling as to be detected by the naked eye, the nation's History Museum considers that a large allowance would be made if he selected 1,500 species as types. Not only would these 1,500 species give the ordinary visitor a very full idea of the varied forms of birds, but they would enable any one who had made himself acquainted with them to say, once, on meeting any bird, "I know it," and to go on to tell to what family it belonged. The arrangement would be as follows:—The wall cases would be allowed to stand, but the other objects which cover the floor would be cleared out, and in their place would be two lines of glass cases, leaving 10 feet clear for each of the three passage-ways. Above the wall cases would run a gallery fitted up with store cases and drawers, and at intervals there would be doors communicating with rooms used as studies.

It is well known that, at present, the Museum is really accessible to scientific persons only on alternate days; but, by separating the great mass of the specimens as a scientific collection, which the public would not care to see, and need know nothing of, that collection would be always available to students, while the general or typical collection could be always open to the public. Some idea may be formed of the vast space afforded by the present wall cases in the bird gallery, when it is stated that it is equal to the area allowed for the exhibition of the whole of the British fossils in Jermyn-street.

Within the walls of this gallery all the known birds could be so arranged as to form a most fascinating exhibition to the general public, and this room would, by the adoption of the typical plan, be amply sufficient to hold all additional for the next year.

We have dwelt at some length on the Natural History Department, because collections within this section of the Museum are under sentence of transportation, and because visitors are known to take a greater interest in these than in others, for a proper appreciation of which some special knowledge and education are necessary. We have gone into detail, because we deem it most important to decide whether we shall go on spreading out collections to an indefinite extent, or whether we shall be content with giving a general idea of natural forms, reserving in store for the use of studious and curious persons more minute and extended representations. If the resolution of the Trustees be carried into effect, a very small space will be set free, not amounting, in fact, to 13,000 feet. This proposition of sending away mineralogy and geology is a mere makeshift. It will do nothing towards relieving the pressure of the accumulations on the space within the Museum. For this reason we can but regard the transfer as a simple do-nothing, or (what we have already hinted) as another item in the scheme for the aggrandisement of South Kensington.

The ruling idea which has long guided the heads of departments has been that of obtaining and exhibiting everything. It is to this comprehensive notion that the deadweight to which we have now come is mainly due. In the Department of Geology no less than in the Natural History Collections, we should advocate, at least for the future—limited exhibition. Let any observant person enter the galleries devoted to antiquities, and watch the effect produced on the majority of visitors, and we are much

mistaken if he will not find it to be listlessness and weariness. After all, in this to be contented at? An untaught man is unable to see anything worth looking at in a torso, or other minor objects, and every object which he happens to take more interest in these things, from education or natural bent, cannot afford to deprecate the antiquities in the Museum; for the most part, not objects of high art, although they possess great value as expressions of human civilisation and religious feeling from the most remote ages and in various countries.

There, perhaps, was never a period in which fewer independent opinions were formed than at the present day. The luxuriance of the press saves men from the trouble of thinking, if our systems of education have attempted, in the slightest degree, to teach them that their first care should be to combat the faculty of thought. Thus we must be content to take human nature as we find it, and one of its most conspicuous qualities is readiness to cast about for a faith, a policy, a leader. It devotes on us, then, to show the mass what they ought to admire by placing it before them; and thus our collection of antiquities may be made ancillary to the education of the people, by imbuing them with a taste for the noble and indiscriminate pouring through rooms filled with unintelligent sculpture will teach a man as much, or as little, as a book written in an unknown character. Archaeological remains, however interesting and however widely displayed, bear no comparison at all to a well-chosen exhibition of the highest art in its form. It is concentration of merit at which we should aim. While fully recognising the desirability of arranging the antiquities in chronological sequence, we should, in the interests of the public, ask for one room or hall devoted to great masterpieces of art. Let us have in London a match for the Tribune of the Uffizi Gallery, if all chance of getting a Braccio Nuovo is hopeless.

Although, as we have said, we should be glad to see a chronological arrangement of works of art, we do not lay so much stress on its necessity as some. The anomalies which exist in the present disposition of the saloons are of little practical importance in the eye of the scholar, and tend but slightly to confuse his judgment. If the nation were called upon to see a painting that showed only the present state of the world, no other arrangement than one in order of time should be adopted; but, as a vast assortment of sculpture—much of it of gigantic size—is *in situ*, some regard must be had to economy. The few facts elicited in one instance of contemplated removal are not encouraging. The removal of the "School of St. John" was proposed to be moved to the present position, and the estimated cost was set down at £70. The Trustees did not feel justified in sanctioning this outlay, and the head list stands in the gangway at the end of the great gallery. The circumstances of this case are described as altogether special, for the monument is a block of granite, weighing six or seven tons, and the removal of many of the largest objects in the Museum, which would be necessary to obtain a strict chronological sequence, could be accomplished only at great cost and probable risk of injury.

We cannot now do more than touch briefly on some of the more prominent points connected with the present position of the British Museum. We shall gladly witness the clearing away of the glass sheds that now mangle the fine portico, but their presence reminds us of a cardinal rule of conduct that should guide the Trustees for the future. Rejoiced as we are at knowing that this country possesses the sculptures of the famed Marbles, we are fully certain that great discretion should be observed in the display of these marbles. Many—unhappily, too many—are in mutilated fragments, and we can only repeat to Mr. Newton what we have already said in dealing with Professor Owen's section, that the Museum cannot find space for that liberal exhibition which he evidently contemplates. Many broken pieces were sent home from Herculaneum and Cumæ, and we see whether they could be made to fit one another, and consequently, there is not the least necessity for their being exhibited. If these fragments are preserved in some part of the building, they need not be in the public portion, as they will be interesting only to the antiquarian.

Let there be no attempt, to the detriment of the public, to show them. That the finest and best preserved of these marbles may most worthily find a place among our collections we unaffectedly believe. All we ask is that sound judgment be exercised before we stand committed to an extensive range of rooms whose contents will present few points of attraction to general visitors, and it is manifest that a comparatively limited space is required to store sculptures for purposes of artistic reference, and we dare challenge contradiction to the statement that the public will be in no way benefited by the construction of huge and lofty galleries with ample thoroughfares projected for the admission and circulation of the holiday throng. Before we attempt to erect a series of rooms of enlargement or arrangement stands, as we conceive, the principle on which we shall proceed in adding to the Museum.

Considerable diversity of opinion would, probably, be found as to the point at which excavations of ruined cities should cease. If no limit is placed on archaeological researches; if the nation is prepared to pay for the discovery of scattered fragments, illustrative of every chapter of ancient history, every fresh extension of the Museum will still prove insufficient. It is clear that, postpone it as we will, the day will come when the State will be constrained to cry "enough." For ourselves, we are strongly disposed to think that the time has even now arrived when a stop should be put to the extension of the Museum, and that the necessity of finding exhibition space for their results. The success which has attended the mission of Mr. Newton very naturally induces him to look forward to accessions from Asia Minor and the Archipelago, and from Cyrenæa; but will that gentleman, or any one, point out the corresponding advantage to be gained in return for a great outlay which will

entail still further and further enlargement of the Museum? In some quarters we shall be thought guilty of downright heresy when we assert that the multiplication of fragmentary sculpture—belonging not to the best periods of art—is of no real value as a study. It is not the fact that these works are brought together from the four winds of heaven with no view as to their actual artistic value, but rather to justify the use of high-sounding terms, such as "the history of the art-emanations of the human mind throughout all time?" The history of the human mind! what crass gaps occur! Here it is left to conjecture that the Egyptian pyramids, how faint is the impression we can gather from them alone of the character of Egyptian art. Colossal and perdurable are its features, we see; but to realise its stature and to trace its descent is granted to those only who can gaze on its embodiment in the land of its birth and in the complete grandeur of its types at Memphis and at Thebes, in the Pyramids and in the mighty temple of El Karnak.

If our Government could take a more direct interest in art, or had power to encourage, by grants of money, the publication of works illustrative of ancient remains, every purpose would be served, and the nation would not be called upon to provide buildings for vast collections, and to pay an additional staff of attendants to dust and keep them in order. So, we ought to lose no opportunity of obtaining fine sculptures. All we say is, that when sculptures are much broken and defaced, and do not belong to a good era of art, we should be satisfied with carefully drawn representations of them, and indifferent to the possession of *ipsissima corpora*. With such facilities as we can command by the aid of photography we should, at a small expenditure, obtain a series of illustrations, while we reserved ourselves for the purchase and conveyance of works produced in the best periods.

The Museum has so completely outgrown all previously conceived ideas of its originators, that the very purpose of its foundation is now matter of dispute. Naturalists assume that it was founded as a Natural History Collection, but Mr. Farnham contends that the very name given to the chief officer—namely, Principal Librarian—shows that the Act of Parliament which called the Museum into being considered books, and not natural history, as the main feature of the institution. The account of its origin is this. Sir Hans Sloane left his collections to be offered to the nation for £20,000, with contingent provisions in case of refusal. Parliament in 1753, voted that sum, and by the same Act bought also the Harleian manuscripts. By uniting these purchases with the Cotton collection of manuscripts, which had long been the property of the nation, the British Museum was established. Whatever might have been the original destination of the Museum, its triple union of literature, science, and art, was the plan since joined to the wish to retain it in its present position. Indeed, it would be difficult to over-estimate the value of that connection, or the convenience afforded to persons devoted to science and art of meeting round a common centre—our magnificent national library.

Among the objections to the removal of the Natural History Collections, the least is the forfeiture of a special privilege, which the Committee state in their report, would cost £10,000 at the present time, while the daily increase in the literature of natural history will necessitate further expenditure, from time to time, on works which frequently contain costly illustrations. Is the country prepared to incur the burden of supporting two immense establishments, with all the concomitant cost of attendants and buildings? We have yet confidence in the independent members of the House of Commons that they will not allow this monstrous job to be perpetrated. The scheme of removing the National Gallery to the same favoured locality met with a signal defeat. We observe that Lord Eichen- to whom we are chiefly indebted for the retention of the pictures in the centre of London, has been appointed by the Ministry of Education, and he shall be held responsible for the estimates voted for all public institutions. That something must be done is clear. Indeed, nothing but this coquetting with South Kensington has prevented the question from being settled in the only rational and sensible manner. As the land which surrounds the British Museum happens to belong to one proprietor, there can be no difficulty in coming to terms with him, and the whole could be purchased the whole at once, and make use of as occasion requires, not (as we have endeavored to show) in a wild, prodigal style, which will reopen for our descendants the question which ought now to be set at rest for ever; but with forecast and judgment, proceeding with the fixed determination to perfect one of the grandest schemes which ever needed to be carried out of any nation to apply to a complete building, the contents of which shall be the wonder and delight of the world, and the cyrusus of all who are devoted to art, science, and letters.

**COMMITTEE ON FIRES.**—A select committee to report upon the subject of fires in the metropolis has been nominated. It includes Mr. Hanksy, Mr. Cowper, Mr. Locke, Mr. Cave, Mr. H. B. Sheridan, Mr. Cubitt, Mr. Lewis, Mr. Passmore, Mr. P. P. Butler, Mr. Alderman Alderson, Mr. T. M. T. W. Miller, Mr. Vance, and Mr. G. Clive, with power to send for persons, papers, and records.

**THE LONDON CO-OPERATIVE OIL AND COLOR COMPANY.**—Mr. Thompson, the assisted manager of the London Co-operative Store, writes, with reference to a notice of the Company which appeared in our Number of the 14th inst., that the company really deserves "the support of architects, who, in all classes, are noted for share transactions." However that may be, it is very rarely that we can find it useful and profitable to take shares in any company. The dividend promised is, we observe 10 per cent., and the address of the manager, 8, Collet-place, Commercial-road, LONDON, W. WORKS AT CHERTSEY.—The Chertsey Gas Consumers Company offer £10 for the best and largest site selected to them for works to make and 2,000,000 cubic feet of gas per annum.—*Engineer.*

## PROFESSOR SMIRKE'S LECTURES ON ARCHITECTURE AT THE ROYAL ACADEMY.—LECTURE V.

I AM now I addressed to you some remarks on the subject of form as it affects design in exterior architecture, and now I desire to introduce to you some of my experience and reflections on design in interior architecture. These two subjects, as I then stated, readily admit of separate consideration, and, indeed, I am almost sure that, for the sake, as well as the reason, the designer in each case is widely different.

In determining the external features of a building we have to consider, besides the nature of the building itself, various other circumstances, such as the position of the site, the character of the surrounding scenery, or of the adjacent architecture. It is far otherwise with internal architecture; there we may disregard all those collateral circumstances, and devote our attention to the internal character of the building.

In designing the interior of a building, however, there arises a new and peculiar source of difficulty. Considerations of convenience come in to embarrass our pencil and to complicate the architect's efforts, and these considerations will often interfere with the more spontaneously against each other. We must needs have a door, perhaps, where we would have a wall; we must needs have a window, perhaps, where we should have a door; and whilst æsthetic considerations may point to the west as preferable. In fact, to reconcile these two important, yet, often incongruous objects, forms one of the severest trials of an architect's ability. The art and science of interior design, therefore, is a delicate and difficult plan, so as to fully adapt them to their special purpose, is truly one of primary importance. It is, indeed, obvious that all our labour and art may be, wastefully expended if our plan be not such as to afford a convenient collection of its several parts. To lay down a good plan, therefore, becomes the first duty of an architect, and demands his first and most earnest attention. The subject of a convenient arrangement of a plan cannot be entered upon with propriety here. I will, therefore, on this point, confine myself to the general observation that simplicity and directness are cardinal virtues in all architectural arrangements, and, as a straight, not a crooked, and a short, not a long, way is the best, when a turn is necessary, let it be one that cannot be mistaken.

The first impression on entering a building should be such as to be becoming to the special purpose, and suggestive of the nature of the building. The Greek temple, for example, well calculated to give an impressive air of sanctity to the temple itself, by recalling from all incongruous elements a similar feeling, perhaps, and the same effect is produced in the temple to form that peculiar feeling, or atmosphere, in front of the nose, of which a few examples still remain. The Basilica of San Ambrogio at Milan, and of S. Clemente at Rome, are instances of this kind. There is little doubt that the effect of these arrangements was influenced by subjective considerations of this kind, although the ritual appearance of this portion of the building was to receive the catechumens of the church, and the entrance to the church was the cause of the plan. The effect of this effect is, however, all events, a very powerful effect must have been produced upon the eye and mind by this shutting off from view the outer world, and concentrating attention on the sacred shrine about to be entered.

It was, perhaps, a similar motive, a legitimate artifice for the purpose of strongly impressing the mind with the nature of the building, and of inducing a feeling of awe, to form their doorways of very moderate dimensions. Great emphasis was ordinarily given to the western, and often to the lateral doorways, by exterior decoration, but the actual entrance was usually concealed by a screen, and the effect of this arrangement was to produce a surprise at entering, and so affecting the mind with awe.

Turning now to domestic architecture, we shall not fail to recognize the efforts made to produce a similar effect in designing a house. The hall, for example, is a very favourable first impression. Their halls are of large dimensions, treated in a broad and grand manner, without much ornament, but usually embellished with ancestral statuary and warlike trophies.

This first entrance-hall is, however, sometimes made subordinate to a capacious inner room, the dining room, or the drawing room, and the effect of this arrangement is to produce a similar effect in designing a house. The hall, for example, is a very favourable first impression. Their halls are of large dimensions, treated in a broad and grand manner, without much ornament, but usually embellished with ancestral statuary and warlike trophies.

This inner central hall may, perhaps, be regarded as illogically deduced from the interior of the house, as it is, in fact, a simple, formal, and uninteresting place of passage, and derived from the same source. Whatever the phase of art, whatever the mode of treatment, whether arched or columnar, or both, these columns afforded occasions for most picturesque and pleasing designs. At those interesting remains of Roman magnificence called the Villa Medicea, at Tivoli, we have a remarkable instance of the union of the arcade and colonnade, forming a cloistered ambulatory, an arrangement by which we have the greatest possible variety of outline and character.

I proceed now to an important feature of almost every structure designed for man's habitation—I mean the staircase. In designing this often very picturesque feature, it must be admitted that we have to attend to ancient as well as modern precedents. The internal staircase of very striking effect in any classical manner. Magnificent exterior flights do not occur, and in Belli's description of the Greek Theatre of Crotone we see evidence of the existence of double returning flights, similar to those so common in modern architecture, having each flight enclosed within solid walls. The novel stair was certainly of purely Greek origin. A perfect example of a more conservative and less picturesque staircase is to be seen in the interior of the Villa Medicea, at Tivoli, where the staircase is only 6 feet 4 inches. The domestic architecture of Rome seems to have required little and the staircase of the Villa Medicea, at Tivoli, is a fine example of a staircase of this kind. It is a staircase of the kind which is to be found in many of the houses of the great personage and to be provided with ready access to very high levels—built, too, when Roman power and art were in their zenith, expressly to gratify the extravagant love of display of the Romans—we find no very perfect example of a staircase of this kind. The stairs are numerous, and, as I mentioned to you two weeks ago, executed with great massive skill.

In tracing the buildings that remain of earlier Medieval art, it is still difficult to point to any very fine staircases.

Flight of stairs in stone do not occur. There are notable examples at Assisi, and at Luca, where there is a flight 7 or 8 feet wide, with a marble arched balustrade, sufficient to show that the builders were to some extent aware of the fine effects obtainable by the artistic treatment of this portion of a building. It is, however, a matter of surprise to know of none in this country of greater importance than that in the cathedral close at Canterbury.

The novel stair was certainly the most usual form of stairs in buildings, even of most important character, during the middle ages. The example at Dover Castle, known to most of us, is of large dimensions; that at the Palace of Westminster, which is a fine example of the Gothic spiral form of staircase, where, whatever the length of the steps, there necessarily is a change of level, and the spiral stair is a fine example of a staircase of this kind. In the quiet times of the later Tudor staircases in this country began to assume their proper character, and there is no part of our old Elizabethan mansions on which builders were so much at home as in the staircase, or on which they were so much more successful in playful fancy, than the staircase.

But while these fantastic works were in course of erection, which we see at Green Hall, Hatfield, and elsewhere, especially in Hertfordshire, the more practical artists, who were working



## THE ROYAL ENGINEERS.\*

BUT little need is there, unfortunately, for "an Officer" to ask if the numerous commissions and committees, that within the last few years have been appointed to inquire into matters with which our Military Engineers are concerned, have been necessary or not? If the circulars, issued at various times by the Secretary of State for War, directing attention to incompetency, extravagance with public money, &c., have been called for or not? If all the pamphlets that have been printed teeming with charges of incompetency against engineer officers, are true or false? If all the letters, leading articles, &c., that have appeared in Professional and military papers and periodicals, the BUILDING NEWS among others, says the author, on the same subject, proceed from those who write merely for the sake of writing? or, if they, in common with commissions, committees, and pamphlets, tell us that there is something wrong in the organisation of the Corps of Royal Engineers, and that this error will continue to be heard till a proper remedy is applied, and will not be quietly by mere temporary palliatives?

The Royal Engineers do not, they must themselves confess, occupy a very enviable position, subjected, as they have lately been, to attacks from all sides on their weakest point. There was the commission appointed to inquire into the state of our national defences, another on the sanitary condition of the army and the hospitals; and barracks, another on the education of the officers of the corps; then Lord Herbert appointed a committee to examine into the method of conducting the works and buildings under the department. In no one of these inquiries, it must be said, have the results been in any way creditable to the Royal Engineers as a body, or the system under which they are appointed.

In architecture and in engineering, it is usually considered that from five to ten years of study must be passed through before the student is competent to practise, and Vitruvius has bequeathed to us a somewhat extended series of acquirements which few would succeed in making themselves masters of in that time; yet, according to the system under which the Engineers are appointed, they before they are twenty years of age undergo a course of training in permanent and field fortifications, including designing and building, the construction of gabions, fascines, &c., pontoons, barrel piers, and other military bridges, mining, military sketching, road making, use of weapons of warfare, including the power and effects of artillery, as also the strength and manufacture of combustibles, photography, chemistry, electric telegraph, machinery, astronomy, foreign languages, architecture, civil engineering, land surveying!

It also appears, though it has not been so stated in evidence, "that some of the officers of military engineers have devoted considerable portions of their time to the study of international and commercial law, as well as to the management and control of military and civil prisons, galls, &c., for we occasionally hear of their being very suddenly promoted from some military post to a consularship, and of the same officer being as suddenly removed from that to a civil professional duty. Then, again, we hear of military engineers being appointed governors of colonies, superintendents of prisons, inspectors-general of military prisons,

chairmen of board for management and control of convicts, and all this, with their pay and promotion in the corps simultaneously going on, although they themselves are away from it."

As the writer says, "this is a formidable list of acquirements to be possessed by a young man before he is twenty years of age; nevertheless, we have it stated by high authorities in the corps, that all engineer officers undergo a training in the several branches here enumerated, which must be before they leave Chatham, because, as is well known, the most pernicious of all systems of promotion is in force in the Corps of Royal Engineers. When once an officer obtains his commission, and leaves Chatham, his promotion follows by seniority, as a matter of course, regardless of merit or ability—there is no subsequent examination. The greatest doer, who has been crammed at college, and crammed again at Chatham, so soon as he can sign himself Lieutenant Royal Engineers, is promoted at the same rate as one who may be both by the force of nature, genius, as well as by education, an able and accomplished man. That there are clever officers in the corps, and many of them, cannot, nor is it intended here to say, be denied, but they are supposed to know something of so many things, extraneous to their real profession, that they have not even a complete knowledge of that."

With such a system, the result is inevitable. The officers themselves are not to blame; when impossible tasks are set, failure necessarily follows. It is madness to expect a single individual to be capable of becoming proficient in a dozen professions, any one of which is sufficient for the full employment of an ordinary brain. Consequently, "no engineer officer attempts anything without the assistance of others," and we find a numerous body of surveyors, draughtsmen, &c., employed preparing drawings and specifications for the forts now being constructed, as well as those under consideration for the defence of the country.

Then with regard to the actual execution of the works, "All barracks, &c., are built by private contract, and when erected are kept in repair by private workmen, and for the best of all reasons, because it is proved to be cheaper and better than by any other system. Diligent inquiries have been made to ascertain the correctness of this, and in every case it is found to be so, no single instance to the contrary being forthcoming. And, come abroad, where it might reasonably be supposed that the Sappers and Miners, though they did not build, would at least keep in repair, those who undertake such works are invariably assisted by native civilians—the word "assisted," as applied in this sense, being capable of a very different interpretation to that usually assigned to it."

As regards the value of their labour compared with civil labour, it is remarked that many are under the erroneous impression that a soldier, who gets one shilling per diem working pay, works at four times the value of a civilian at the same rate of pay, and they also imagine that all Sappers' labour is the same as that of surveyors, draughtsmen, or mechanics, being unaware that nine-tenths of the corps are only fit to be called labourers, and that their labour should be valued only as such, whilst, as regards the remaining tenth, their labour is not worth that of ordinary mechanics, as a rule, the exceptions also being very rare.

With the view to improve the existing state of things, the writer suggests that one of three things is absolutely necessary, either to relieve the



DESIGN FOR A CHIMNEY-PIECE.

\* The Corps of Royal Engineers: Could it not be reorganised; so as to produce an Efficient Body of Military Engineers. By an Officer. STAFFORD, Chasing-crow.



CHAPEL OF NOTRE DAME, BOULOGNE.—MR. C. F. HANSON, ARCHITECT.



military engineer officers from the civil professional appointments they now hold, for which they are not qualified, and which they never undertake without the assistance of civil professional officers, and to confine them to their military profession, educating them so as to qualify them for the special duties which they will have to perform; or to create a new corps or body altogether, offering appointments in it to both officers and men of the present one; those who are unwilling to receive such to be placed on half-pay if officers, and the men, if entitled to it, to be pensioned. To create a body of officers to be called staff engineers, who will have to instruct the troops in military engineering, so that they may be qualified to act when called on in the field. The admissions as staff engineers to be by competition, open to the whole army; the examinations to be conducted, where possible, by general officers, who have retired from the Royal Engineers; or, to hand over to the military school of engineering a almost identical with that of the Engineers, all the military part of the profession, and to set about educating the Engineer officers, so as to qualify them for the civil professional appointments which they now hold on suzerainty, at the mercy of the civil officers under them. To increase the Royal Artillery to a very trifling extent, to meet the extra demand that will be made on them, and remove from the combined list of the army the existing corps of Royal Engineers, instituting instead a branch or body of military architects for professional duties, such as are now termed civil professional duties; the admission into this new branch to be by competitive examination before the Civil Service Commissioners, and open to the whole country. By this means the military part of the profession, and the Royal Engineers would be saved to the country (except so much of it as would be required to educate about one-fourth of the number for the Royal Artillery); and the existing civil professional officers could be granted retiring allowances, or have compensation given them. The rank and file of the present corps to be disposed of, as in the previous scheme, as soon as possible.

#### ANCIENT AND MODERN SUPPLIES OF WATER IN ROME.\*

THE unit or gauge of water supply in ancient Rome was the of a digit in diameter, or 0.91 inch, the digit being 0.73 inch; the depth of the centre of the orifice below the surface of the water was fixed at 15 digits (or  $\frac{1}{4}$  of a Roman foot), equal to 10.96 inches; it furnished, therefore, 0.1508 gallons per second, or 13,023 gallons per day. Rondelet computes the ancient gauge to be 39.165 cubic metres daily, and the modern one now in use at Rome 49,455.2 cubic metres; but in the following calculations they have been taken at 40 cubic metres for the new Roman gauge, and 60 metres for the ancient or *quinary* as termed by Frontinus, and by which the discharge of the aqueducts was measured.†

From direct measurements made by Frontinus we have the following quantities of water discharged by each:—

Appian and Antonine.....	24,000,809
Anticla and Anio.....	20,986,140
Marciana.....	18,996,140
Tulliana.....	15,976,625
Julia.....	14,976,625
Virgin.....	13,976,625
Antonine and Antonine.....	11,976,625
Quintiana.....	10,976,625
New Anio.....	10,976,625

Total..... 227,574,800 or 24,805 quinaries

\* By the ancient registers we find that, out of the total supply of 24,805 quinaries, only 14,018 quinaries were distributed; but Frontinus has proved that there existed numerous frauds on the part of those in charge of the distribution, who turned the water for the benefit of the proprietors of the land to no right to its use, and on the part of many neighbouring farmers who pierced the canals, and by these frauds defrauded the state of more than 10,000 quinaries.

In a notice upon the distribution, value, and legislation of the waters of ancient Rome, M. Dureau de la Malle mentions that the nine aqueducts supplied all 4,338 acres of the city, and the actual gauge differs only from the inferiority of the diameter of the quinary, and in the supposition (note 4, page 3) that the centre of the orifice du quinaire était à la même profondeur au-dessous de l'eau que le centre du l'orifice du ponce de fontainiers (soit à 7 lignes.)

This is an error. Rondelet has found that the ancient Roman gauge was a calyx or cylinder of given diameter and length, and placed horizontally in the side walls of the water towers in such a manner that the centre of the orifice of the calyx was at a distance below the surface of the water equal to the length of the calyx.

The modules of the different concessions to individuals had all their centres on the same line of level. This arrangement yet exists at the present day.

The actual gauge of Rome at the present day is one inch, or one-half of a palm, 0.7355 English inches in diameter, and the centre of its orifice is placed at 15 inches, 11.04 English inches below the level of the water. The inch is equivalent to a digit, and the actual gauge differs only from the ancient in that its diameter is one digit instead of five-fourths of a digit; but the depth of the centre of the orifice has never changed.

In comparing the above quantities of water supplied with the population

\* See page 129, etc.  
† 1 cubic metre = 220.1 Imperial gallons, *Le*, the ancient quinary = 13,996 gallons, the modern = 9,904 gallons.

Complete results des séances du Académie des Sciences, séance du 13 Février, 1848.  
† Le ponce de fontainiers de l'Académie des Sciences à Paris (hauteur de 0.92707 mètre).  
‡ On this diameter, the charge of 1 cubic metre (0.9115 mètre) on the centre of the orifice, the flow per second is 0.000,222, 146 cubic metres.

of ancient Rome, we have no perfect data, except that we may imagine ourselves to be somewhat near the truth in taking the maximum at one million of inhabitants at the end of the first century of our era, under Trajan. Let us roughly fix the population under the Emperor Aurelian, 270 of our era, at 820,000, and he deduces this number, first, from the surface occupied within the boundaries of the town; second, the number of the habitations; third, the consumption of wheat. Admitting, then, a maximum at the end of the first century of our era, the water supply would have given 350 gallons per inhabitant.

The registers of distribution show that 14,018 quinaries were thus distributed:—33,555,978 gallons distributed outside the town; 22,542,642 gallons in the name of Caesar (Imperial gardens, theatres and palaces); 50,803,482 gallons were distributed to private persons, giving a revenue under Augustus of 22,542,642 gallons for public service—*viz.* 3,684,474 gallons for nineteen camps, 31,707,606 gallons for public establishments, 5,097,516 gallons for theatres, 17,630,010 gallons for 510 pieces of ornamental water.

As to the mode of distribution, there were 247 water towers in the time of Frontinus, from which all the pipes derived water, these centres being all on the same horizontal line. A decree of the Senate forbade any concessionist or subscriber to take water from any points in the conduits but these towers, in order that the public fountains, which flowed day and night without intermission, might not suffer any damage.

We are told that the most glorious work of Trajan was not only that of the construction of the aqueduct of new Rome, but of rendering the air more salubrious, but of having rendered this supply as pure and agreeable as possible, and diminishing the prevalence of intemperance. After slight showers of rain the Roman waters were turbid and muddy; but this was not a natural defect of all the aqueducts or supplies, for the Marcian and Claudian, among others, derived immediately from springs, were of a perfect limpidity. When the spring waters and the Anio streams came to be mingled, they were polluted by the impurities of the latter.

The Emperor Trajan classified, therefore, the supplies of water according to their respective origins. The Marcian, of the purest quality, held the first rank, and was reserved exclusively for drinking purposes, and the others were applied to various uses, each according to its quality. The Anio canals were destined for the irrigation of gardens and the cleaning operations (sordidiora) of the town.

Among the rules and prescriptions handed down to us by Frontinus, we may notice a decree which forbids "in the neighbourhood of springs, vaults, walls, canals, and subterranean conduits, any enclosed garden, trees, vine hedges, bushes, or boundary walls, or plantations, or woods, at less distance from the watercourse, on either side, than 15 Roman feet (14 English)."

It was also enjoined that the senators should carry on the works of repair from the month of April to November, but to suspend them during the summer, inasmuch as the heat of the sun would render the work of masonry as severe frost. The care of the aqueducts belonged anciently to the censors and aediles. Afterwards officers were appointed called *curatores aquarum*, with 720 men, whereof 260 (Publica), and 460 (Familia Cæsaria) were two separate bodies.

#### THE CITY SURVEYOR'S ANNUAL REPORT.

FROM Mr. Haywood's report of works executed by the Hon. the Commission of Sewers of the city of London during the past year, we learn that 1,560 feet of new sewers were constructed, 1,401 feet being on the line of old sewers. The total number of premises drained was 144, thus increasing the number of houses drained to 13,184.

No conclusion as to the cause of the deaths of four men who were found dead in Fleet-street sewer has been arrived at, a circumstance considered to be remarkable, inasmuch as there was an apparent absence of all those conditions which are usually found in connection with such accidents.

Improvements have been effected in the King Edward-street at its southern end, and the bottom on the north side. Negrate-street, between King Edward-street and Bath-street have been set back to the improved line, other streets have been widened and negotiations are pending for effecting further improvements.

The experiments made in June and July last with reference to carburetting the gas supplied to the public lamps as suggested by the United Kingdom Carburetting Gas Company, were deemed so satisfactory that it was determined so to frame the specification of the new contract for the City as to require that the Commission might, if they thought fit, adopt the carburetting process.

The business transacted by the Commission under the Metropolitan Buildings Act may be gathered from the following summary of cases:—Number of structures erected under the Act by the surveyors appointed by the Commission, 9; number of cases heard before the magistrate, 12; number of buildings shored up during the year, 8; number of cases certified by the surveyors as being completed, 22. This is a great reduction in number as compared with the year 1860.

The number of drains of the City are as follows:—On the corner of St. Mary-le-Bow Church, presented by Messrs. Copstake and Company; one at the corner of St. Sepulchre's Churchyard, at the corner of Gilspur-street, S. Garney, Esq., M.P.; one at Fleet-street, in front of the Church of St. Dunstons-in-the-Vest, St. James Dugdale, Bart., M.P.; Alderman, &c., one at Adelaide-place, London-bridge, the United Kingdom Temperance and General Provident Institution; one in Blagrove-street-without, in front of the Church of St. Botolph, Blagrove, C. Gilpin, Esq., M.P.; one in Moorlane, opposite the Police Station, Mr. Sme; one in front of the Royal Exchange, S. Garney, Esq., M.P.

From a return on house inspection and removal of nuisances, it appears that, during the year, 9,111 houses of buildings were made by the district surveyors, the Medical Officer of Health, and consequent upon their report, the following notices were issued:—For works of drainage, 13; for pre-





## RELIQS OF EASTERN ARCHITECTURE.\*

INSTEAD of following the usual route pursued by Eastern travellers—crossing the desert from Egypt to Palestine, and proceeding thence to Syria—Miss Beaufort and her sister sailed furtively from Alexandria to escape from the procrastination and injustice of an Egyptian court of law. After visiting Smyrna—where Mr. Hyde Clarke and the Ottoman Railway Company were teaching the advantages of railways—and were rapidly inoculating them with a taste for swift, easy locomotion—the authors took land at Beyrut. They, however, previously visited Mitylene, and, while the steamer called at the ports, Rhodes, Latakia, and Tripoli. Coasting along they caught sight of Badrun, where their father, the late Sir Francis Beaufort, may be said to have commenced his life-long labours in the service of science. The feminine modesty of Miss Beaufort has prevented her from doing more than make a passing allusion to the explorations of the late hydrographer to the navy; but we, who have no such motives for silence, ask the indulgence of the reader for a brief digression, which the publication of Mr. Newton's researches at Badrun will invest just now with interest.

Karaman comprised the ancient provinces of Lycia, Pamphylia, and the two Cilicias, with parts of Caria and Phrygia. Mount Taurus, which cut the inhabitants off from communication by land with the central government, and the remoteness of the shore from the ordinary sailing track, combined to render this portion of the Mediterranean seaboard almost unknown, though it has been the theatre of Greek and Roman wars through all time, the scene of the heroic deeds of Cyrus and Alexander, and the birthplace of the Apostle to the Gentiles. "This serious chasm in geography determined the Lords Commissioners of the Admiralty to employ a frigate on the survey of the coast, and H.M.S. *Fredericksten*, of 32 guns, being then stationed in the Archipelago, was selected for that purpose." Nearly fifty-one years ago Captain Beaufort sailed from Smyrna on his voyage of discovery. "We pass over the places he visited and the remains he brought to light, to Badrun—a corruption of S. Pietro probably, as the Arabs pronounce *p* as *b*, and confound *d* with *t*—to encourage, by the example of Mr. Newton's success, after Captain Beaufort's failure, the spirit of research. A curious incident arose out of the war which immediately preceded the expedition, and to visit the locality at first, News had reached Mital of unusual facilities having been afforded to a French privateer in the disposal of her prizes, so the *Fredericksten* was ordered to look in at the port, and her captain to make a note of what he saw. All this he could discover of Halicarnassus is described in a paragraph:—"The walls of the ancient city may be here and there discerned, and several fragments of columns, mutilated sculpture, and broken inscriptions are scattered in different parts of the bazaar and streets. Above the town are the remains of a theatre, which measures about 280 feet in diameter, and which seems to have had about thirty-six rows of seats."

With our knowledge of Mr. Newton's discoveries, how strangely do the disappointments and speculations of Captain Beaufort rise before us! We searched with eagerness, during our short stay, for some traces of the celebrated Mausoleum; but our toil was entirely fruitless. Yet, if it stood on the higher ground behind the present town, or even if its site be now covered with modern houses, still it is scarcely credible that the remains of a building of such peculiar shape and of such sumptuous execution should have been so completely removed or destroyed as to leave no vestiges by which even its position may be recognised." From these premises Captain Beaufort was inclined to imagine that the present fortress occupies the site of the Mausoleum—"A bold, elevated rock, conspicuous from the sea, the shores of the bay, and from all parts of the city, would seem to have been the spot originally suited to the ostentatious grief of Artemisia." What added weight to this hypothesis were the observations made of numerous pieces inserted in the walls of the castle, representing processions and combats between draped and nude figures, and the report of a Greek, who declared to have seen in the interior a long frieze, with highly wrought figures, besides many other pieces of sculpture and inscriptions. Sir Beaufort's conjecture, confirmed by the discovery of Rhodes hastily built (1402) the castle upon the ruins of a fortress they said just surprised, they paid little attention to the "preservation of pagan relics," and, in fact, quarried the stones for their structure from the remains of the Mausoleum. Mr. Newton has, within the last few years, set the matter at rest.

At Rhodes the authors found the church of the knightly order in ruins, from the explosion (1856) by lightning of powder which had been concealed and forgotten in the vaults beneath. At the siege by the Turks, upwards of three centuries ago, the fortress was compelled to surrender for lack of this very powder. Of the eight fine aburgers which belonged to the languages of the order but five remain distinguishable—that of England, exhibiting the date 1453, and the arms of Order of St. Louis, and of Com. Flota, with the sub-inscription, "P. S. Dns. F. Franciscus Flota Prior Toulon construct anno 1518;" and that of France, the best preserved of all, for it has been cared for in modern times, and the doorway, with its elegant moldings of the usual twisted cable, after the Saracenic type,

small columns, and similar moldings between the floors, is one of the chief architectural features. Over the doorway are the inscription, "De France le gnt prior F. Emery de Amboise, 1492;" the cross of the Order, and the pales of Amboise; and two sculptures leaning on lions rampant, with the cutting arms of three nails, of Perré d'Amboise, the architect, and a shield, which is the mark of the architect of the English order. Then come two tablets exhibiting the arms of the Order and Amboise, with the motto, "Io Amboise en gnt prior;" tablets with the arms of Villiers de l'Isle Adam, and sculpture with the royal arms of France and the motto, "Voluntas Dei," and the date 1495, St. Louis at the side, and "Dieu (ayde) le Pecheur" above, a second sculpture of Amboise, and the cardinal's hat presented to P. d'Aubusson, his shield, and that of the Order. A little beyond is the Chapelle de France. Seeing the care with which France preserves the memory of her past achievements, as in Rhodes and in Tunis—where she has restored the chapel of St. Louis—it is not surprising that her influence should be so great over Eastern minds. It must be a source of regret that neither the English Government nor the present representatives of English families that derive their illustration from the valour and piety of the Knights should have cared to preserve the auberge of England from decay and profanation as a monument to the chivalry of our race. A trifling subscription would buy the structure and freehold and install a guardian or school. We do not despair of this being done, if Mr. Scott can succeed in awakening public interest and consideration for architectural monuments, especially since Rhodes is likely to grow into importance from the British Museum having commissioned M. Salzmann to uncover and collect antiquities from a Phœnician-Greek necropolis discovered near the village of Kalvarados, and believed to be that of Carnios. He has already recovered sarcophagi, vases of all sizes, from three feet diameter upwards, to a few inches, of every metal, and of various shapes, with innumerable designs: figures to surmount long bottles of alabaster and stone; small porcelain idols, scarabei, buttons, and pieces of lead, exhibiting Phœnician characters; gold band and bracelet, an olive crown, with the leaves gilt bronze, and the fruit in porcelain (*quercy*, enamel?); lamps, rings, and beads, and gold oblong plates, so repeatedly found in the tombs of M. Salzmann supposes them to have been hieratic ornaments. The plates are each two inches long, always exhibiting the figure of Astarte. They are, perhaps, now in the cellars of the British Museum, and may be revealed to the gaze of the curious in the course of the next century, provided the increase of accommodation in Great Russell-street keeps the same level of progress as it has hitherto maintained.

From Latakia there was little to report architecturally. There are ruined columns, frieze, and a triumphal arch, overgrown with weeds. We may add, *en parenthesis*, that in the neighbourhood there is capital snipe shooting, and that the tobacco so prized in Europe is cured with the smoke from thorn fires, and is on that account—from its impregnation with hydrocyanic acid—undesirable to Oriental smokers. We have enjoyed the Macedonian weed, or even the commoner tobacco of Southern Syria, such as is used throughout the Lebanon and in Damascus.

Tripoli is dismissed in a paragraph, for the time allowed by the stoppage of the steamer would not allow of critical explorations, and yet it is, perhaps, the loveliest spot in Syria—to the admirer of nature the most beautiful, and at the same time, perhaps, the most unhealthy to a European. The sources of natural beauty round about Tripoli are the causes ofague and low fever. Our talented Vice-Consul there, Mr. Mercier—who by-the-by, is unpaid, even to the postage of his dispatches, has never been free from ague during the whole period of his residence. Tripoli was ever a favourite with the Crusaders, and they did their utmost to embellish it. Here Raymond of Toulouse built a castle on the banks of the M. M. which is fed by a thousand streams upon Lebanon, to protect pilgrims, for it is the nearest port to the Cedars. From the Lebanon, which here attains its greatest altitude, two spurs shoot down to the coast, maintaining nearly parallel directions, and sink into the soil just above the town—one affording the site for the castle. The spurs are studded with stately olive trees, interspersed here and there with fruit and flowering shrubs. The valley below, a series of watered terraces, and a river, is a series of gardens planted with orange, lemon, fig, and apricot trees, pomegranates, elematic, sugar-cane, and creepers of many-coloured flowers. At the end of a long summer the whole of the valley is green, picked out here and there with the more vivid colours of ripe fruits. Right across the valley, and bestriding the river is an aqueduct, built by the Crusaders, which conveys pure cold stream from Lebanon to the innumerable fountains of the city. The Crusaders' Bridge, as it is still called, is so overgrown with perfume-giving plants that its construction cannot be easily discerned. The streets of Tripoli will bear favourable comparison with those of any Eastern city. They are narrow, it is true, but they are so embellished with flowers and greenery that the houses have a European aspect, especially in the dressing of the stones. Nearly every one is an ever-flowing fountain, and almost all the streets are similarly provided. Here and there you are met in out-of-the-way corners with a stone cistern curiously carved. You hear the pleasant sound of falling water, and will see a little crystal stream, escaping from some fault, and falling into a tank, which you follow to its source. In the houses respect Tripolians are better off than Londoners. They have a constant supply of pure water; we an intermittent supply of foul water contaminated by sewage.

To Beyrut the journey is not long. There are three routes; by sea, by following the coast, and by going through the Kesrawan. The first no architect would take. The second would take a good deal of time. The third, by Bahreh, which strikes the eye by its combination of rich culture, fantastic rocks, and flowery dells. The Kadisha fountains and sparks, and

\* "Erythraean Sepulchres and Syrian Shrines." By EMILY A. BEAUFORT. Longmans, London. Continued from page 172.







even advance his point, he will try those means. I do not carry his selection, neither the chance he has, after having "sown the wind," his "reaping the whirlwind."

With your permission I will on a future occasion advert to this subject, and endeavour to obtain some little information on the same as also on the most important principle in connection therewith, viz., the expense attendant on the introduction of what, without the slightest exception of the being so, is termed "a self-supporting scheme."

February 25th, 1862.

FETARD.

**TENDERS.**

**OFFICE, DARLINGTON.**

For the erection of offices in connection with the New Marine Works at Darlington, for the Stockton and Darlington Railway Company. William Peasey, architect.

<i>For the whole.</i>		<i>For the whole.</i>	
Appleby and Carter.	£2,300 0	Burthorpe (accepted)	£2,153 11 3
Graden.	2,070 0 0	Widdall and Son.	2,137 0 0
Palmer.	2,430 14 0	Hodgson.	2,138 4 0
Cockburn and Bridge.	2,227 11 0	Robson.	2,109 12 0
Hodgson.	2,228 17 3	Widdall and Son.	2,103 0 0
Narvon.	£290 11 0	Widdall and Son.	£292 17 4
Graden.	301 6 5	W. Robson and Son.	860 0 0

*Slater.*

Wharton.	£114 12 9	Atkinson and Son.	£147 10 0
Freeman.	120 0 0	Graden.	147 10 0
Watson.	147 10 0	Putnam.	189 0 0
Graden.	£287 0 0	Robinson.	£268 0 11
Smith.	745 14 0	Armistead.	676 7 6

*Member, Graden, and Graden.*

Laidler.	£293 0 0	Russell and Sons.	£28 13 11
Graden.	320 0 0	Widdall and Son.	320 11 0
Hind and Son.	319 0 0	Woods.	320 0 0
Watson.	348 0 0		

*Harrison.*

Watson.	£72 17 4	Hyden.	£56 0 0
Watson.	42 12 0	J. H. Wilson.	28 0 0
J. Wilson.	58 0 0	Galsbury.	54 0 0
Garthwaite.	58 0 0	Galsbury.	54 0 0

**PASSENGER STATION, YORKSHIRE.**

For the erection of passenger station at York, for the Stockton and Darlington Railway Company. Mr. William Peasey, architect.

<i>The whole.</i>		<i>The whole.</i>	
Graden.	£4,438 4 0	Widdall and Son.	4,308 15 0
T. Robson.	4,411 2 3	W. Robson and Son.	4,177 1 0
Graden.	4,411 2 3	Widdall and Son.	4,177 1 0
Cockburn and Bridge.	4,275 7 0		
Kellett and Sons.	£1,790 4 11		
Palmer.	2,333 10 0	Albidge and Kemp.	1,621 10 0
France.	1,647 13 6		

*For the whole.*

Butterwick.	£293 19 0	Wharton.	£276 13 0
Freeman.	284 14 0	Ord and Sanderson (accepted).	276 13 0
Graden.	284 14 0		
Robson.	£293 19 0		
Kellett and Sons.	509 0 0	Chapman (accepted).	720 0 0
Armistead.	105 18 6	Widdall and Son.	498 0 0

*Member, Graden, and Graden.*

Laidler.	£237 2 0	Russell and Sons (accepted).	442 3 5
Graden.	190 3 0	Woods.	399 10 0
Hindson.	408 0 0		

*Smith and Ironfounder.*

Head, Ashby, and Co.	£834 0 0	Croft.	£726 2 0
Darlington Forge Co.	834 0 0		
Watson.	£119 12 0	Widdall and Son.	£100 0 0
Butterwick.	120 5 4	Galsbury (accepted).	96 1 0
Ethys and Mosson.	115 10 0	Graden.	72 12 4
Walker.	2 7 0		

**DWELLING-HOUSES, &c., BALTIC.**

For the erection of two dwelling-houses, with bath-room, York, for the Stockton and Darlington Railway Company. Mr. Robert Moore, architect.

<i>For the whole.</i>		<i>For the whole.</i>	
Thompson (including slating).	£197 3 0	Robinson and Marshall.	£627 0 0
Porter and Son.	72 10 0	Robson.	612 8 8
Hodgson (including slating).	675 6 0	Belt.	391 14 8
Freeman.	627 8 0	Marshall (accepted).	562 12 8
Butterwick.	£43 3 0	Palmer.	£43 15 0
Freeman.	43 15 0	Palmer (accepted).	42 0 0

*For the whole.*

Croft, Ayre, and Nicholson.	£21 11 0	Palmer (accepted).	£18 16 3
Widdall and Son.	£21 11 0		
Widdall and Son.	£21 11 0		
Widdall and Son.	£21 11 0		
Widdall and Son.	£21 11 0		
Widdall and Son.	£21 11 0		

*Member, Graden, and Graden.*

Butterwick.	£25 7 0	Graden.	£41 1 0
Walker.	48 18 0	Watson.	40 10 0
Brown.	43 0 0	Townsend (accepted).	36 5 0

*For the whole.*

Butterwick.	£165 16 3	Laidler.	£152 5 0
Russell and Sons.	152 5 0	Widdall and Son (accepted).	152 5 0
Croft, Ayre, and Nicholson.	£291 5 0	W. W. Way and Co. (accepted).	£270 17 2

*For the repair and restoration of the parish church of Norem, Pemfretshire.*

Jenkins, Thomas, and Davies.	£1,265 0 0	C. J. Davies.	£1,225 16 0
Stone and James.	1,265 11 0		

**COTTAGES, MARKE.**

For the erection of a pair of cottages at Marke, Yorkshire, for the Stockton and Darlington Railway Company. Mr. William Peasey, architect.

Thompson.	£200 9 0	Freeman (accepted).	£159 11 6
Freeman.	446 0 0	Freeman and Son.	420 10 0
Elwin.	443 18 0	Mauzy.	430 10 0
Butterwick, Macon and Peasey's Work.			
Palmer.	£200 7 9	Belt.	£207 16 0
Freeman (accepted).	211 5 11		


*For the whole.*

Butterwick.	£42 0 0	Wharton.	£20 14 0
Freeman.	41 10 0	Ord and Sanderson.	38 0 0
Palmer.	40 0 0	Freeman.	35 10 0
Chapman and Jones.			
Brathwaite and Son.	£100 0 0	Widdall (accepted).	£126 10 0
Freeman.	142 0 0	Palmer and Son.	120 0 0
Widdall and Son.	138 0 0	Brown.	120 0 0
Brathwaite and Son.	£100 0 0	Widdall (accepted).	£126 10 0
Freeman.	142 0 0	Palmer and Son.	120 0 0
Widdall and Son.	138 0 0	Brown.	120 0 0
Brathwaite and Son.	£100 0 0	Widdall (accepted).	£126 10 0
Freeman.	142 0 0	Palmer and Son.	120 0 0
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Brathwaite and			





## STRAND IMPROVEMENTS.



ONDON'S great artery of traffic—the link between the commerce of the City and the fashionable life of the West-end—is on the eve of undergoing considerable change by the realisation of two projects which, it is said, will be shortly commenced. We allude to the proposed Temple-bridge, and to the new hotel that is to be erected on the site of Lyon's-inn, and to the new Courts of Justice. Any fresh appropriation of the localities would be an improvement—architectural quite as much as social and moral. But, before endeavouring to forecast the results of the new works, and their influence in widening channels for traffic, let us take a glance backwards, with Mr. Peter Cunningham and Mr. John Saunders for our sure, erudite, and pleasant guides, at the old features of the Strand and so much of Fleet-street as will be affected by the contemplated alterations.

Temple-bridge is to start from the foot of Essex-street, and cross the river to Princes-street, Upper Stamford-street—one of the sites reported on by the Select Committee of 1854 as requiring bridge accommodation. The structure is to be similar to the one being erected at Lambeth, and is to be by the same architect or engineer, and contractors. The spans are to be 300 feet; and the total cost £45,000—not a twentieth part of the cost of its neighbour, Waterloo-bridge. Essex-street, which is to be the approach to the site of the new bridge, is part of a site that has been illustrated by some of the most startling and romantic incidents of English history. It formed part of an outer temple wherein was one of the residences of knights. From their hands it passed into the possession of the Bishops of Exeter, and the old structure became their episcopal residence in London, whence the title of Exeter House. No less than nine bishops had their inns in the Strand, from the motive given by Selden, that their persons were held sacred, and they consequently had no cause to fear for their safety, while others were compelled, for the sake of security, to live within the City. One of the episcopal inhabitants—Miles Stapleton—who improved the edifice, was beheaded in Chesham by the mob, because he was a friend of Edward II.; the corpse was buried beneath a heap of rubbish in front of the palace door. From the Bishops' possession Exeter House passed into the hands of Lord Paget at the Reformation; next to the Duke of Norfolk—to that duke who purchased and in part rebuilt the Charter House, who meditated marriage with Mary Queen of Scots, and who was beheaded on Tower-green for treason; then to Queen Elizabeth's first favourite—Leicester—and from his nephew, Sir Robert Dudley, to the most unfortunate of all the Virgin Queen's favourites, Robert Devereux, Earl of Essex, who gave it its last title, Essex House. When it was known as Leicester House, it had sheltered Spenser, and Sir Nicholas Throgmorton died there, poisoned, it was rumoured, by the Earl. When Essex returned from Ireland, which he called the "curse of all islands," and whither the Queen, after boxing his ears, had him "Go and be hanged," his house was thrown open to the disaffected and enterprising, and a strong party of his old officers took up their lodgings about Essex House, permitting themselves into a guard and council. The popularity of the Earl and his Londoners overshadowed and gave umbrage to the Crown, and encouraged him to attempt to forcibly remove from Court his enemies, including Sir Walter Raleigh and Sir Robert Cecil—Sheridan's Burleigh, that "shook his head, but there was nothing in it." On the second Sunday in February, 1600-1, followed by Southampton, Rutland, Sandys, Montagu, and some 300 gentlemen rushed to St. Paul's Cross, expecting to find the congregation assembled, and to use it as a means for raising the City. But the poor, the honest, and the wise, there was no preaching. Baffled and defeated, he made his way back by water to Essex House, which he hastily fortified with a view to defend it to the death. The Queen's troops brought artillery to bear, and planted a cannon on the tower of St. Clement's Church—not the present one, but the old structure that was pulled down 1682—which compelled the Earl to surrender. We need not follow him to his trial and execution. But how many pass to and fro between St. Clement Danes and Essex-street pause to conjure up the bloody scene that was enacted two centuries and a half ago when the blood and smoke of battle; gallant Salisbury's heroic death at an open window, and crying out, when hit on the head, "Oh! that thou hadst been so much my friend as to have shot but a little lower;" the boom and flash coming ever and anon from the top of the old church tower; the shrill, hoarse cries of command interspersed with cries from the wounded, and

the veil of fog that fell over all like a pall dotted here and there by cressets?

A few years later and Essex House was the home of another Robert Devereux, but instead of being the victim, like his father, he was the vanquisher of the Crown. True, the roystering cavaliers who could not defeat the Parliamentary General nicknamed Essex House Cuckold's Hall, from the scandalous misconduct of his wife, the daughter of another of Elizabeth's victims—the Duke of Norfolk—which did not prevent the House of Commons, headed by their Speaker, the Lord Mayor and Aldermen, paying the Earl of Essex a congratulatory visit on the occasion of the battle of Newbury, when the untamed militia of London triumphantly withstood the tempest charge of Rupert's Cavaliers.

Coming down more than a century later, Essex-street affords another illustration of a very different character to the preceding one. The home of the knights, of bishops, and of Elizabeth's nobles was swept away, and on a portion of its site was and is still the Essex Head, where Dr. Johnson established an evening club.

The singular success which has attended the establishment of large hotels here on the American system, the promptitude as well as the extent with which visitors have patronised them, have led to the publication of proposals for building a new hotel on the site of Lyon's-inn. The ground has been leased for a long term of years, the object of purchasing the freehold. It is premature to speak of the architectural character of the design, further than that the ground floor is to be appropriated for shops. When the New Concentrated Law Courts come to be constructed upon the site already pointed out, the hotel will be of great public convenience, and there can be no doubt of its proving highly remunerative to the shareholders, for good hotels are as profitable and sure investments as any. The selection of Lyon's-inn is singularly felicitous for the erection of an hotel. There it will not interfere with anything worth preserving, while it will promptly lead to the abolition of Holywell-street and to the widening of the Strand at that part. Lyon's-inn is an inn of Chancery belonging to the Inner Temple. It was originally a guest inn, purchased by law professors and students in the reign of Henry VIII., who converted it into a Chancery. It has not, so far as we are aware, a single historical association, though of great antiquity, to plead for its preservation; for the first time during a few years, and until the establishment of the Architectural Union Company, Conduit-street, it sheltered the Architectural Association, cannot weigh with any one. It stands in Newcastle-street, named after John Holles, Duke of Newcastle, who died 1711. Holles-street, adjoining, is another souvenir, and is even more devoid of architectural merit than of antiquarian interest.

The site for the New Courts of Justice lies partly within and partly without the City. It is enclosed between Carey-street, Clement's-lane, the Strand, Fleet-street, and Bell-yard. Mr. Hayward in his report, which was read on Tuesday to the City Commissioners of Sewers, says, that on the area to be taken, only four or five houses are within the City, that Temple-bar is scheduled, and Shire-lane is to be destroyed as a thoroughfare. Here we are approaching ground which has the reputation of being connected with historical associations. Ben Jonson's haunts are to the east and south of Bell-yard, and will, therefore, not be touched. The only illustration that Mr. Cunningham mentions of Bell-yard, is that Pope wrote letters to a friend who lived there, which the poet spoke of as "that filthy old place." Shire-lane has some associations, but none sufficiently important to induce the obliteration of the infamous purposes to which it is now devoted. In the upper part lived Bickershall, the Tatler; Elias Ashmole, the antiquary, resided there also. Theodore Hook and Dr. Maginn were both locked up at the same time in a spunging-house in the lane, which, even so far back as James I.'s time, had an *alias*, Rogue-lane. In the shop of a pastrycook, Christopher Katt, who was famous for his mutton pies, was established, in 1700, the Kit-Kat Club, composed of 39 noblemen and gentlemen, zealous partisans of the House of Hanover, among whom were Somerset, Richmond, Grafton, Devonshire, Marlborough, Newcastle, Devon, Sunderland, Manchester, Wharfedale, Kingston, Somers, Halifax, Sir Robert Walpole, Vanburgh, Congreve, Granville, Garth, Addison, Maynard, Stepney and Walsh. But who now, great as might be his devotion to Whiggery, would have stomach for mutton pies made in Shire-lane? The club has long ceased to be; but the name is preserved in portraits of a certain size, from Kneller having painted the members of the club all on one scale, then quite new.

Temple-bar is scheduled, but we have reason to believe that it will not be removed. No architect will regret its removal, though it is the work of Wren, any more than will the historical student for it is a comparative modern innovation upon the ancient posts, rails, and chains which used to separate the City from Westminster; and the only thing to be remembered in connection with it is, that it served to hang up the heads and quarters of the gentlemen who suffered death for their loyalty to their king. From Temple-bar, on the north side, up to Wyck-street, the houses are all modern. The straits of St. Clement's

Butcher's-row, where Sully once slept, and where Nat Lee got drunk on the night he fell and was stilled in the snow, on his way through Clare-market to his lodgings in Duke-street, and which was a continuation of Holywell-street eastward, was swept away to make room for Alderman Fickett's improvements in 1813. Clement's-lane, "where Sully may talk of his Shadow year" will not be touched. In St. Clement's-lane, part of which will be pulled down, lived Sir John Trevor, cousin to Lord Chancellor Jeffries, and twice Speaker of the House of Commons. He was found guilty of corrupt practices, and, as Speaker, had to put the question whether or not he ought to be expelled the House. Worst of all, he had to declare the question carried in the affirmative.

Neither Carey-street nor Russell-courts, Old and New, call for notice. Lord St. Leonard's can scarcely be serious when he pleads on their behalf against the concentration of the Law Courts in the law neighbourhood.

#### OBELISKS.

THE decision of the Queen in the matter of the Albert Monument has naturally set men thinking upon the forms and decorations of obelisks. A simple obelisk may, of course, be easily designed—if the mere copy of an ancient work can be called design; but we believe that something more is needed than a mere repetition of one or other of the monoliths which once stood before the propylon of an Egyptian temple, and that the subscribers to the fund, as well as the public, will not quietly suffer the same form collected to be the only type of an ancient edifice. The Wisham monument, or a large replica of the hideous terminus to many Renaissance balustrades. The combination of sculptured groups at the base, with the thin tapering form of the obelisk, will test the resources of architects far more than would the design of a monument unlinked with any previously determined principal feature.

The grandeur seen in many of the old obelisks springs chiefly from the sense of durability which they convey to the spectator, being chiefly hewed and squared out of the "time-defying material," granite, and consisting of monoliths of unusual size. The mere form of a small obelisk has but little beauty to recommend it. It was, nevertheless, a happy stroke of art which forbore to carrying the tapering lines to a point, and played the sides of the summit pyramidal. The dignity of the obelisk is thus preserved, and its difference from a pyramid sufficiently marked. All obelisks have a greater or lesser family likeness, and all either were not intended to be what Sirabo calls them—Books of History—covered on their four sides with inscriptions.

We purpose giving in this description of the principal obelisks which still remain scattered amongst the ruins of Egypt, or which have been transported thence to European capitals. It is unnecessary that we should touch upon the question of their antiquity. We may take it for granted that they are "Mosaic Pharaonic," but whether Thothmes lived 1,000 or 3,600 years before Christ does not much affect our present purpose. Neither is it worth present inquiry, if Thales, according to some authorities, King of Egypt, was the originator of these monuments, and that they were first reared at Heliopolis, in honour of the Sun, which gave its name to the city. One phrase is, however, worth noting for its drollery. He speaks of Ramesses "pitching on end an obelisk," which "carried in length one hundred feet, weighing one"—as though the feet were as easily performed as setting up a five-foot rod.

Nearly all the Egyptian obelisks were set up in front of temples, one on either side of the doortway. The path leading thereto was, in many cases, an avenue of sphinxes, such as we see faithfully represented in the Egyptian Court, at Sydenham. This accounts for the obelisks being in pairs. There are two, for instance, at the famous Cleopatra's needles, although what that queen had to do with them we cannot tell, nor any one, it appears, inform us. They stood originally at Heliopolis, and were brought thence by the Ptolemies. Like the majority of the Egyptian obelisks, these are of the red Syene granite, and are somewhat less than 10 diameters in height. One is still standing, the other lies prostrate by the side of it. It is this latter which was presented by Mohammed Ali to the English Government, but which has not been deemed worth the cost of transport. The standing column is 70 feet high, the fallen one, 66 feet. The pedestal on which the former stands increases its height by nine feet. It has suffered considerably, especially on the south side, from the effects of the atmosphere. The inscriptions upon its prostrate companion are almost obliterated. The dedication which surrounds them has carried up the base of the one, and hidden all except the upper side of the other. Amongst the ruins of old Alexandria, by the "still-veiled shore" of the Mediterranean, the monoliths of a dynasty long passed away rest more appropriately than they could if removed from the country, as well as from the city, to the glory of which they formerly contributed.

The celebrated Heliopolis is said to have been remarkably rich in obelisks. Besides supplying stone, which we have just alluded to, several of the European specimens have been brought thence, and at the present day its one obelisk, rising upwards of 60 feet, first greets the traveller's eye as he approaches the city from Cairo and Matarrich. The pedestal projects from the obelisk 2 feet on either side, without moulding of any kind. Abd'Allah speaks of "les deux obélisques de l'orme d'un côté et de l'autre d'un espèce de chapeau en cuivre, en forme d'entonnoir qui descend jusqu'à trois coudées environ du sommet."

The broken obelisk near Riggis is peculiar, in so much as the apex is rounded instead of pointed, and, like that at Heliopolis, appears to have

been originally covered with bronze or other metal. A slight recess from the sides of the obelisk has given rise to this belief. The obelisk is in two fragments, but, complete, would have been about 40 feet in height and 4 feet in diameter.

The easternmost of the twin obelisks at Luxor also remains there. Its companion is that which now forms the centre of the Place de la Concorde, at Paris. They are both splendid specimens, covered with a profusion of deeply cut inscriptions and hieroglyphics, in many instances exceeding two inches in depth.

In the adjoining ruins of Karnak there are two obelisks of large dimensions: one still stands, the other has fallen by its side. They are 92 feet in height and 8 feet square. They are surrounded by a peristyle of Osiride figures.

Higher up the Nile, just above the first cataract, on the island of Philæ, Belmont erected the largest obelisk which we possess in England.

The obelisk in the At-Meidan, at Constantinople, is of granite, and partly covered with hieroglyphics. It is about 20 feet high, and is called after Theodosius, but it is believed that that Emperor removed it from another site, where it had been set up by Constantine. Nicetas, in the life of St. Ignatius, Patriarch of Constantinople, says that it had at its top a brazen pipe-apex, which was thrown down by an earthquake. The pyramid of Constantine Porphyrogenetus, standing near it, is sometimes called an obelisk, but it is really what we have designated it. It was covered with metal, as were, possibly, the apices of the obelisks at Heliopolis and in the Pyramids. The holes are visible into which the wooden pegs fitted which secured the metal casing.

The obelisks of Rome are eleven or twelve in number. They have all more or less been surmounted by Christian emblems, and fixed on ordinary Italian pedestals instead of the unmoulded pillar, standing on two or three steps, which the Egyptians deemed more appropriate to them. With the Egyptians the hieroglyphics were the principal feature of the obelisks, and these they considered as the most important part, regarded them as huge blocks, to be converted by minor ornaments into Christian monuments. They are, of course, the oldest monuments which the Eternal City contains, and nothing testifies so strongly to the enduring quality of these monuments as the fact of their still existing after repeated overthrow and neglect. With the exception of one—that in front of St. Peter's—all of them have been since the time of the capture of the city by Egypt, thrown down and, have lain uncarved for amidst ruin, or been buried and forgotten until chance unveiled them to a more appreciating age. The old Roman conquerors had a passion for obelisks, and must have employed immense sums of money in bringing to Rome these trophies of the Egyptian conquests. This passion, after slumbering for ages, was revived in the mind of the emperor Constantine, who, immediately after his election to the Pontificate, determined to transform them into Christian monuments. He invited suggestions from all parts of the world for the best means of removing the huge monolith from the Circus Nero to its present position in the great square before St. Peter's. Five hundred suggestions were submitted, and eventually Fontana, the architect, who designed the church of St. John Lateran, was employed upon the work. Fifty-two times, it is said, his efforts were unsuccessful, but after repeated benedictions and the employment of 600 men and 160 horses for upwards of twelve months, he had the gratification of completing his task. If we are to credit a very improbable story, this was, however, only performed by the extra-official counsel of an English doctor, or, as others more probably have it, of a man named Brasca, who, spite of the injunction to silence, bade them "wet the ropes," which, consequently contracting, landed the obelisk in its place. The labour will be understood when we say that the single stone weighs nearly 400 tons, that it is 82 feet 6 inches in height, and in diameter 8 feet 10 inches. It was brought from Egypt in a ship built expressly for it by Caligula, and in the following inscription, still legible, dedicated it to Augustus and Tiberias—DIVO, CAES. DIVI IVLII. F. AVGUSTO—TO T. CAESARI DIVI AVG. F.—AVGVSTO SACRVM.

The obelisk is of red granite, and bears no hieroglyphics. The apex is ornamented with a metal finial, surmounted by a cross, which was removed 130 years ago, when some relics of our Saviour were inserted in it. The obelisk stands upon a double pedestal, the upper one bears some of bronze ornament, but the die of the pedestal being no wider than the base of the obelisk, has little more effect than to raise the whole to a height of 132 feet from the ground.

The largest and finest obelisk at Rome, then lying in three fragments in the Circus Maximus, next attracted the attention of Sixtus V. Fontana's skill and energy was again called into action. To fit the fragments together it was necessary to excavate a portion of the earth, notwithstanding this diminution, it remains the tallest obelisk in the world, and is surpassed, even in story, only by that which Sémiramis is said to have cut out of the Armenian quarries, 135 feet high by 5 feet in diameter. The Lateran obelisk is still upwards of 100 feet high. It is surmounted by a cross, and stands upon a moulded pedestal. The whole height from the ground is 140 feet. There is a difference of 84 inches in the dimensions of the sides, two being 9 feet, and the other two 9 feet 84 inches. This peculiarity is frequently met with in Egyptian obelisks. It did not interfere with their appearance as they were originally placed—before the temples—but detracts from their beauty when fixed in the centre of a square or court. The discrepancy was doubtless intentional, to afford a broader field for the inscriptions.

The Circus Maximus likewise yielded to Sixtus V. the splendid obelisk which first greets the traveller on his entrance to Rome by the Porta del Popolo. It is covered with hieroglyphics, which different interpreters have

variously translated. It appears, however, to have been brought from Heliopolis by Augustus, who, on two of its four sides, reared its dedication to the Sun. Sixteen hundred years later it was again reared by Fontana in the same city, and not far from its former site, but this time a cross was placed as the crowning feature of the work. The obelisk itself is 78½ feet high, but with the base and ornaments rises to 116 feet.\*

#### LABOURERS' DWELLINGS.

ONE of the most satisfactory features of the present day is the disposition which is showing itself among those who have wealth and influence to employ the advantages they thus possess for the benefit of the classes whose work has been an indispensable element in the process by which wealth has been procured. More persons than a day ago recognize that it is the duty of an employer to care for the welfare of his workpeople than formerly; and what is perhaps of more importance, the employing class are beginning to feel that, as a class, they are bound to do what they can for the good of the labouring class, collectively as well as individually.

It has, therefore, become a matter of some importance that the best construction and arrangement for labourers' dwellings should be understood and adopted, and that those improvements which science and skill have placed within the reach of the middle and wealthy classes should be extended to the working man, both in town and country.

Much, very much, remains to be done before the dwellings of the upper and middle classes are placed in a condition of even tolerable safety and healthiness; much may be gathered from some recent observations of our own on the subject, and from the discussion which lately took place at the Institute upon Mr. Henry Roberts's paper "On the Essentials of a Healthy Dwelling." Still it is clear that in any building of the better class, where the smallest attention will be paid to sanitary considerations, where any professional superintendence is employed, there need be no difficulty, and, generally speaking, will be none in obtaining all the security for health and comfort that well-arranged drains, dry construction, good water, and free admission of air and light will afford.

Far otherwise has it been with the dwellings of the labouring poor; till recently any advantage of the kind was almost entirely beyond their reach, and it is not too much to say that in a majority of instances, and up to a very recent date, you would find far more regard to sanitary appliances and to convenient arrangement in the stables of the farm-buildings of any proprietor, than in the dwellings of his workpeople, either in town or country.

Some of our nobility—such as, for example, the Duke of Bedford—were among the earliest to commence a system of cottage building on their estates, and many of their cottages are both picturesque and convenient. The example, like steam cultivation, land drainage, and other modern improvements, has begun to spread, and we propose in the first instance to set a few words on the subject of the good cottages of the aristocracy, labourers, and then to refer briefly to the improvement of the dwellings of operatives in towns. In doing this we shall endeavour, as far as possible, to avoid repeating what has already appeared on the subject in these pages, and shall, therefore, pass over some points really of great importance, but which have already received full consideration.

One of the cardinal points of good building is that every structure should be thoroughly well adapted to the requirements of its site and circumstances. This requirement when observed will raise the simplest building to the rank of an architectural work, and is as necessary to good cottage building as to anything else. The habits of the labourers in the locality must be considered, the local materials and modes of construction must be employed, and the advantages and difficulties of the soil be taken in relation to drainage, aspect, water supply, levels, access and the like should be carefully considered and made the best of; and, lastly, the rate of wages and amount of rent obtainable must be taken into account in determining the extent to which desirable improvements may be carried.

For a labouring man, married with a family, it is proper to provide for a living-room and a three sleeping-room—one for the parents, one for boys, and one for girls. It is also extremely desirable to have a small well ventilated room or space in which the sink and the copper shall be fixed, so as to keep them out of the living-room, and a closet for provisions. The outbuildings will comprise at least a convenience and a fuel store. The habits of the district will decide whether a pigsty outside the house, and a baking oven, are or are not requisite; and whether—as is the case in Yorkshire—the kitchen-range commonly preferred will not supersede both oven and boiler; whether the floor of the living-room shall be of brick or boarded, and an immense number of minor points.

In such a cottage as this, one sleeping-room must be on the ground floor in order to economize space, and as economy will be consulted by building pairs or groups of three or four.

One of the great difficulties to be contended against in arranging cottages is the necessity of allowing and providing for the taking of single men, employed in the neighbourhood, as lodgers; although, at the same time, the most objectionable occurrences are constantly arising in consequence of this custom. In a house which has been occupied by a family with only young children, the ground floor bedroom can be conveniently and suitably allotted to this purpose. When the family is older, this, of course, ought not to be allowed, and provision might be made for adding an additional bedroom on the ground floor, at the back of the house, for a lodger. We have seen in some excellent labourers'

cottages arranged for factory workpeople a small back kitchen appended to the house, with a bedroom over, accessible either to the parents' bedroom, through a door which can be closed at night, or by a ladder in the back kitchen itself. This arrangement renders it possible to accommodate a lodger, and yet shut him out completely from the family at unseasonable hours; so that should he not return at the hour of going to bed, he can reach his room without entering the house at all.

It is idle to say, although this is actually said by the less considerate among those who promote cottage improvement. Such a prohibition cannot be enforced and had better, therefore, not be attempted. It will be more prudent to provide for the lodger, and to regulate strictly the number of them allowed on the estate.

Ten or twelve, and even two-roomed cottages are useful for labourers with no families or small ones, and should be occasionally built. The size of the rooms it is difficult to regulate; the best rule to give is, build them as large as you can afford, for the evil of not having a separate room for children of each sex is so great that it would be better to form two closets no larger than ships' cabins rather than put them together in one room of better size.

This brings us to the very vital consideration of cost. Even the wealthiest man will feel reluctant to continue investing money in cottage improvement if he finds a very bad return from it; and the majority of landowners and farmers will be entirely deterred from the attempt, should such a result seem even probable. With care and judgment, cottages can be built at a moderate return, and a moderate return, when it is the good of his own tenantry, and as an example to his neighbours, should allow himself to exceed such an outlay as the rent he can get will pay interest upon. If he does, he may, indeed, benefit his own people, but he will fail to do much good to those around.

It is not unusual in the fashion having set in that way that farmers have taken up with drainage and subsoil plough, but because of the heavy harrows got off the lands so treated; and it will require the greatest care on the part of those promoting improved cottage building to place it on anything like the same footing.

There are many districts where eighteenpence a week is as much as can be procured for a labourer for a cottage. This enables us to within ten shillings of four pounds a year, and it is not too much to say that any good cottages fetching this rent, built for £20 or less each, will be sure to be copied or imitated extensively; if they cost a hundred pounds each they will be little followed, and if they cost a hundred and twenty pounds each or more, they will probably remain solitary examples. There are certain things which ought not to be postponed for any consideration, such as the separation of the sexes, drainage, water supply, dryness, warmth, ventilation, such general solidity as will reduce the cost of maintenance to a minimum.

These being secured, the question of cost becomes one of paramount importance, especially in rural districts, and probably the best actual experiment yet made will suffice in many cases to show what is the lowest amount for which it is possible to build. Great simplicity of plan and of details, a dexterous use of the materials nearest to hand, and, where possible, a repetition of the same parts, or the same sizes, will tell very markedly upon the total cost, more especially where a number of cottages are to be built, and need not, with care, exclude picturesque effect and an air of finish and completeness.

Perhaps the most advantageous circumstances under which cottage dwellings can be built, occur when they can be placed in the vicinity of large towns. The artisans and even ordinary labourers get better pay in towns than in rural districts, and consequently can afford higher rent; whilst, at the same time, land and building are not so costly in the outlying districts adjoining those towns as to counterbalance this advantage, so that, when carried on with prudence, cottage building in such neighbourhoods will be found very remunerative.

The case of the dwellings of the labouring population in London, or in the country, any great city, presents difficulties as formidable, if not more so, than those which beset the improvement of cottages in rural districts; for, although the wages of skilled artisans are high and the better sort of labourers get good pay, yet there is an immense mass of the population sunk in the greatest poverty; and at the same time, the cost of building materials and labour, but above all, the cost of the land, is so high, that a very much higher rent must be required of tenants in order to make such an undertaking as the building of decent tenements for labouring people at all remunerative.

There is little doubt, however, that by the plan of building agglomerated dwellings, the cost of sites, and, to some extent, the cost of such parts of the building as foundations, roof, drains, water supply, and gas pipes, may be distributed over so large a number of tenements as very much to counterbalance the disadvantage referred to.

Few poor people in London dwell in an entire house; an immense number are lodgers in large houses, now mean and squalid, but once the dwellings of a richer class, who have forsaken the neighbourhood; and such occupy a single room, or two rooms, miserable and wretched beyond description. The most, therefore, here, found practicable, and the only one, is to turn the large houses into tenements, the occupation of which the poor have not the slightest repugnance, and which usually enjoy the advantage of the very best possible arrangement, so far as drainage, water supply, dryness, warmth, and ventilation go.

The returns of profit from these buildings vary, but it is clear that some of them are reputed to be highly remunerative undertakings, and as in some of them a certain amount of quiet liveliness or retiring ostentation, if one may so speak, can be traced, it seems pretty clear that,

\* To be continued.

Page 47, cont.



## ECCLESIASTICAL DILAPIDATIONS.

THIS subject, always of some importance, claims the especial attention both of dignitaries and of every holder of a benefice (to which a building of any sort belongs) at a moment when the management of ecclesiastical dilapidations is under legislative attention, and changes are foreshadowed in the conditions upon which Church tenements are enjoyed.

Incumbents have hitherto stood in the position of tenants for life, being only prospectively amenable as trustees for the due conservation of their estates, but, by the Ecclesiastical Dilapidations Bill, the House of Lords has laid down a new, and to be prosecuted in the present, the system of self-management is to be replaced by constant official control.

Among the things it is desirable to set at rest with regard to ecclesiastical dilapidations is, their proper extent, a point upon which surveys have shown great difference of opinion, and which has equally varied legal view; but no attempt is made to close this question by any definite provision in the Act.

If the term dilapidation were taken in the widest sense of deterioration, a sinking fund would be necessary to meet the ultimate state of decay into which every building must eventually and inevitably fall; but the clergyman's responsibility here is practically limited to repairs and repairs and repairs, and he is exonerated from a leasee subject to repair only and not to rebuild, for when that duty devolves upon an incumbent recourse is generally had to Queen Anne's Bounty, and the living mortgaged for many future years.

The moderate sum obtainable from the bounty shows, however, that it is to be regarded as merely meeting the extra expense of rebuilding, with the improvements of the period, an expense reduced to the last stage of dilapidation, which the incumbent is personally bound to render substantial and complete. It is a condition, indeed, that the sum advanced for restorations and repairs (including supplemental), and be laid out after the value of the dilapidations has been expended.

By this arrangement the work of repair and renewal falls with equal pressure upon every holder, and though the general restoration occurs only at distant periods, the duty of reinstatement, as particular portions of buildings fall to decay, is never relaxed.

It has been sometimes considered that internal painting, paper-hanging, and distemping are to be regarded as of the nature of cleansings, and therefore not proper subjects of assessment; but it appears more reasonable that things without which no house would be fit for habitation, and which must, therefore, be included in a new building, should be thereforth maintained.

In more than a hundred cases of episcopal and other residences erected within the range of my observation, the specifications always provided, in addition to internal painting, papering, &c., chimney-pieces, grates, bells, and such fixtures as are of permanent utility, and not dependent on the value of any particular occupier. This seems a safe criterion in new edifices, and also where a continuing charge is instituted for repairs; but it should not be strained beyond the proper limit, or to the detriment of the government of the property. It is sufficient to originate but only to maintain, repair, and reinstate whatever has once existed. Thus, a chancel in the diocese of Winchester was surveyed with the twofold object of assessing the dilapidations and of putting the edifice into a state of completeness. There was a considerable difference between the two estimates, because the first had reference to maintenance only, while the other embraced improved constructions and new, though necessary and appropriate, features.

Next to the nature and extent of dilapidations may be considered the times appropriate to their investigation, and any change in the old rule, which marked the annual visitation, as the proper occasion for such a charge, is inconvenient, while, if properly and systematically observed, the settlement of accounts at each change of stewardship would secure most of the expected benefits without affecting the independence of those concerned.

It does not seem an improper requirement, however, that every incumbent, upon taking possession of a benefice, should cause the dilapidations to be assessed, and deposit for application to its special object the money obtained from his predecessor in respect thereof.

The person best suited to make the valuation would be a surveyor nominated by the entering incumbent, and also authorized by the previous holder of the living there would be a simplicity of operation and a saving of expense; but in cases of dispute the appointment of an umpire might be properly left to the bishop.

This would be, in some respects, preferable to the appointment of diocesan surveyors—would relieve the bishop of needless responsibility, and leave the body of experienced surveyors undisturbed in their vocation. But even should the appointment of officers of this kind, it may still be a question whether the Act should come into effect in any benefit until after the occurrence of one avoidance.

A subject upon which the united action of the clergy seems capable of being effected with beneficial results is a modification of the custom of insurance against fire, which the Bill renders compulsory. In a case where I became trustee, some premises had been insured for seven years, and the premium paid down; but at the end of the term I was agreeably surprised at receiving back the whole amount by way of bonus, as the policy had expired, and had not been met by the mere usufruct of the money. This circumstance has led me to conceive that a restoration fund might be usefully instituted in each diocese, presided over by the bishop and governed by the dignitaries. The ordinary insurance charges would possibly produce a fund equal to all purposes of restoration.

In the event of buildings being destroyed by fire the advances should be free, while in other cases loans might be made at a moderate rate of interest.

Practical information calculated to impart a sound tendency and lasting basis to the Bill is no doubt at command, and will be given by me, rather than from attaching much value to these remarks, I submit them to per-

THOMAS MORRIS.

**SOUTH KENSINGTON MUSEUM.**—During the week ending 1st March, 1862, the visitors have been as follows:—On Monday, Tuesday, and Saturday, free days, open from 10 a.m. to 10 p.m., 12,441; on Wednesday, Thursday, and Friday, students' days (admission to the public 6d.), open from 10 a.m. till 6 p.m., 1,552. Total, 13,993. From the opening of the Museum, 5,202,716.

## ART IN CONNECTION WITH MANUFACTURES.

THE Rev. Charles Boutell, M.A., lately delivered a lecture at Sheffield on "Arts, Education, and the value of the Arts in Practical Connection with Manufactures." A considerable portion of the address was devoted to a consideration of the progress that has been made in the application of art to manufactures since the first Great Exhibition, and the probable position of Sheffield in the approaching Exhibition. During the eleven years which have elapsed since the great meeting of producers from all parts of the world in Hyde-park, the most change had been made in the manufacture of art manufactures. The two primary questions of economy and utility have now associated with them a third—the question of adornment. It is recognized as a great error to have beauty in the work, in order that they may be perfect. Not only must a part of anything be beautiful, but the whole of its beauty must grow with its growth, as the beauty of a leaf grows with the growth of the leaf; and, arguing from this proposition, he contended that in order to realize the ideal in our manufactures, we must not be content to allow one man to make an article and another to decorate it, but must so train up our workmen that he who produces the work, though not himself actually producing its decorative qualities, may be capable of producing and appreciating them. Our craftsmen must be artist workmen. The doctrine in this respect, requirement, which was discovered in 1851, had led to the establishment of the South Kensington Museum, and of Schools of Art in connection with it all over the country. It did not enter into the general question of what these schools have been doing for the country, because the results of their operations will be proved to demonstration in a short time, when the Exhibition opens; but he discussed at some length the point whether Sheffield had properly appreciated the importance of art in connection with manufactures. He thought that in the empire was that point of more importance than in Sheffield, since it is threatened with a very severe and resolute competition by continental manufacturers. During the last eleven years, the hardware productions of England, especially cutlery, have been sold upon with very jealous and envious eyes by the skilled craftsmen of the continent; and there has been a cherished desire and intention to beat England on her own vantage ground in the manufacture in the metals. Of course we, as a nation, are not prepared to allow ourselves to be beaten; but, in the year 1851, in 1862 the supremacy of 1851, we must show that we have made vast improvements upon the excellence of past days. Starting from the point we reached in 1851, we must adduce proofs of substantial progress, or we should find that the advance of other nations has left us very much in the rear. The great question, therefore, is, have we been working on such a system as will enable us to look forward with confidence to satisfactory results? and in order to answer this question, we must inquire into the agencies which have been at work amongst us. Mr. Boutell, in his lecture, was sufficiently satisfied to find that in the last year, since his visit to Sheffield, extolled very highly the progress which was visible from the operations of the Sheffield School of Art; and his expression of satisfaction, taken by the public, was sufficient to dispel all anxiety as to the result of the question. It was, however, Mr. Cole's opinions the result of such a sound consideration and judgment of the case as to be conclusive? Unfortunately for those who maintained that because Mr. Cole said so there must be no fear of the first-class medal being won by Sheffield, we have seen upon another branch of art—namely, architecture. At a recent meeting of the Society of Arts, Mr. Cole said, in the most explicit manner, that the body of architects were a set of ignoramuses, that there was but one great architect, and in the eyes of millions of engineers, and the leading whom he has designed to contain the Exhibition is one of the finest, if not the finest, building that ever was produced in the world. He (Mr. Boutell) held, on the contrary, that that building is an outrage to architecture and a disgrace to England, and is not a railway shed after a carpenter's shop magnified to a large extent, with no design or ornament or good point about it whatever. This fact brought home to his mind the serious consideration whether Mr. Cole might not be equally mistaken when he said that the Sheffield School of Art was doing all that could be desired. He urged upon his hearers the necessity of careful study of the principles of art, so that they might become not mere copyists, but original and able in the highest sense of the word, and to make the progress of their country. He had seen much in Sheffield to convince him that the progress which had been made was not so great as he had hoped it would be. Our manufacturers and designers had expended great skill and patience and energy in the copying of works that have been made and thought by other men. They must become original thinkers, capable of carrying out their own designs, if they wished to keep ahead of their competitors.

## ARCHITECTURAL DRAWINGS FOR THE INTERNATIONAL EXHIBITION.

THE honorary secretaries of the Institution of British Architects have received an intimation that drawings and models in Class 37 will be received at the Exhibition Building from the 30th to the 30th instant, instead of from the 1st to the 8th as originally intended.

**THE BOYNE VIADUCT.**—According to the report of the Dublin and Belfast Junction Railway directors, the extensive works which Mr. Hawkshaw recommended for the Boyne Viaduct, to meet the requirements of that structure, have been completed in a substantial and durable manner.

**PARAFFIN OIL.**—A series of interesting and important experiments have been recently made on mineral oils. From these it appears that no danger can arise from the use of paraffin or coal oil if it be properly refined. To ascertain whether this necessary process has been carried out in the case of the oil to be placed in the oil in an open dish in a water-bath, and heat it to a temperature of 130 degrees. If, when elevated to this heat, it does not ignite by the application of a match, it is safe; but if any oil igniting at a temperature of 130 degrees is dangerous, and should not be used for fuel or lighting. As an example of the extremely dangerous nature of some American rock oils, sold as paraffin, it is stated that samples purchased in shops have been exploded at the temperature of 46 degrees.

### SURFACE DECORATION.\*

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gratified, and so it is not applicable to the more refined passions, such as imitation of beauty—whether we include in this category artistic tastes, the love of the ideal, or the more refined tastes on the chords of a symphony. Indeed, it seems a passion so inseparable from man, and so necessary for the development of his faculties, that it would appear to be the earliest. If not the first attempts at order and civilisation: these being established, something more than mere usefulness is required to satisfy the mind's necessities; soon the feelings of a refined age grow weary of a crude utility, and man is urged to a higher and nobler sustenance—to develop the beautiful, to provide a necessary as essential as food for the body.

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Ornament is generally divided into two classes—the symbolic and the æsthetic. The former includes the representation of all objects which appeal directly to our understanding, and have a figurative sense peculiar to the object represented, the meaning of which we suppose to be the same as the regular, prosaic meaning of the word. As, for example, Raynolds' *Christ Crucified*, in which the crucifixion is represented by a cross crushed by a poverty symbol, which predicted the natural representation of living things, and visited the poor slave of an arch-priest, should be deviate from their acknowledged canons of decoration, with a meretricious pandemonium. I think there is much in the symbolic representation of things, particularly of things which are sacred, and which are the basis of our faith in every epoch of art, especially of the living Christian, should give it a positive claim in our education. Whenever symbolic ornament is used it must be subject to the ruling principles of design as ornamental art, or, however ignominious the combination of forms used, unless

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It is with great unfairness I dismiss the highly interesting and important subject of form with so brief a description; my space, however, compels me to pass on with a consideration of the question of colour. It is not, as I have said, a question of whether selection from nature, geometry, or the creation of the artist's fancy, when used as a surface decoration of any kind, should be treated in the flat, that is, without giving perspective, or whether it should be treated in the round, that is, with perspective, and, if the latter, whether, and however beautiful it may be as a picture it cannot be tolerated as an architectural decoration; if them (if positively demanded) must be treated as a picture, and not as a decoration. I cannot feel that the science of colour as at present advocated is sufficient to demonstrate the harmonies and pleasing contrasts that abound in the works of nature, and that the scientific treatment of colour is not a necessary condition of the success of certain Oriental artists, who have produced designs which in delightful combinations of colour surpass all others, know nothing whatever of the modern theory of colour. However, it is not my intention to discuss the scientific treatment of colour, but to point out a few (possibly) true, simple, and dogmatical as they appear, have certainly much to be valued, if they do but lead us to search for the more subtle beauties that colour every-where affords. To do this, we must not be misled by the scientific treatment of colour, but that with them would be a mystery: what I mean is, they cannot prevent the talented and educated artist, with a good eye and instincts for colour, producing harmony without the aid of science. I do not mean to say that the scientific treatment of colour is of no physical elements that enable us to appreciate the charms of colour, and send some light to correct our wanderings, to lead us to a better result than trusting a feebly nature. And if a painter is to be a painter, he must have a good eye, and a good hand, and in form the preference generally gives us direct imitations from nature; however childish and unimportant they may seem, and how sure to be treated with indifference; so the child designs, keep persistent to the object, and the object is treated with indifference; so the child

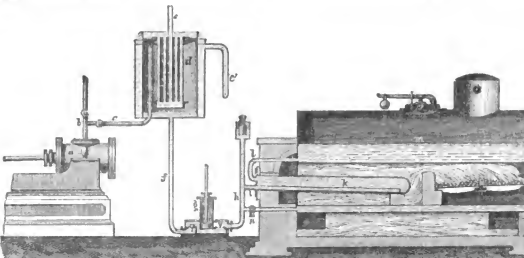
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Our subject, taken in a general manner, resolves itself into two sections: one is which the natural colour is inseparable from the material used; the other where colour is applied to the material, and is consequently altogether artificial. In the former, the colour is the first instance, the employment of brick to the exterior of our buildings, by its general use and adaptability for London elevations, claims our special attention, now that stone, its natural and durable means of decorating the surface, and when judgment and taste is used in the arrangement of the different colours, very good effects can be produced. I have seen the exterior of the church in *Manx-gate-street* - the different coloured bricks are arranged on a regular plan, and the effect is very pleasing. I have seen the exterior of the *Bank* - the towers, but are well studied, and evidently the work of an artist. I mention this in opposition to the more discordant arrangements to be met with so frequently in London, much of which is the work of directors of the different companies, who are not qualified to do so high, cutting up the surface in a very ungraceful manner; the use also of the light red bricks and those stocks as a ground are also objectional, for the tints of the two colours are not so different as to effect the desired result. The effect of the red bricks is to make the remnant; whereas, a little study in the arrangement of colours would readily achieve such a result. I have seen the exterior of the *Bank* - the towers, but are well studied, and evidently the work of an artist. I mention this in opposition to the more discordant arrangements to be met with so frequently in London, much of which is the work of directors of the different companies, who are not qualified to do so high, cutting up the surface in a very ungraceful manner; the use also of the light red bricks and those stocks as a ground are also objectional, for the tints of the two colours are not so different as to effect the desired result. The effect of the red bricks is to make the remnant; whereas, a little study in the arrangement of colours would readily achieve such a result. I have seen the exterior of the *Bank* - the towers, but are well studied, and evidently the work of an artist. I mention this in opposition to the more discordant arrangements to be met with so frequently in London, much of which is the work of directors of the different companies, who are not qualified to do so high, cutting up the surface in a very ungraceful manner; the use also of the light red bricks and those stocks as a ground are also objectional, for the tints of the two colours are not so different as to effect the desired result. The effect of the red bricks is to make the remnant; whereas, a little study in the arrangement of colours would readily achieve such a result.

\* Paper read before the Architectural Association by Mr. R. O. HARRIS.







PATENT STEAM REGENERATOR.

own countries, would, in the forthcoming Exhibition, be placed in this position, that they should either withhold their works or be exposed to the danger of having their copyright invaded; and, therefore, it seemed to him a good opportunity for introducing a supplement to the existing Act. As to plastic art the learned gentleman said, casts and models were already protected in this country for a period of 25 years from the time of their first production, and, by virtue of the treatise relating to international copyright, foreign artists would have their works of sculpture protected by that Act of Parliament.

Leave was then given to bring in the Bill, which was subsequently read a first time.

#### STATUE TO JOSEPH LOCKE.

In reply to a question put by Sir J. SHELLEY whether any application had been made for permission to erect a statue of the late Joseph Locke in the gardens near St. Margaret's Church, Westminster, in which the statue of George Canning was placed; and, if so, whether he had granted or refused his consent thereto, Mr. COWPER said that some of the friends of the late Joseph Locke desired to erect a statue to his memory, and offered to place it on a vacant space near the end of Great George-street, provided such a site could be appropriated for that purpose. It was his duty to state to those gentlemen that he was unable to offer them the site to which they alluded.

#### PATENT STEAM REGENERATOR.\*

IN the drawing annexed, *a* is the cylinder of a horizontal high pressure-engine; *b*, a pipe for conveying the steam, which ordinarily escapes, after acting on the piston, through the pipe *c* into the receiver or surface condenser, *d*; that portion of the pipe (*c*) contained within the chamber or vessel (*d*) is perforated with numerous apertures or openings to admit of the steam separating and passing there through, coming in contact with the tubes or spaces contained therein, whereby it is condensed (forming almost a perfect vacuum, and increasing the effective force of the steam on the piston), and falls into the lower part of the receiver. This vessel or receiver is kept at a low temperature by means of cold water fed from the pipe *e* passing there through, and circulating up the tubes into the upper receptacle, where it flows into the exterior casing, from thence through the exit pipe *f*.

By means of the pump *g*, the condensed steam is alternately drawn and forced from the vessel *d* through the pipes *h*, *i*, and *j*, into the regenerator *k*, placed in the flue, where it is subjected to the heat arising from the products of combustion, and thence by a second pipe *l* into the boiler *m*, which it reaches completely regenerated, and ready to act again on the piston with all its original force; a cock, *n*, is provided for the purpose of shutting the feed off from the lower portion of the boiler when necessary, and may be used as a sluice cock.

#### THE SITE OF THE HOLY SEPULCHRE.

MR. JAMES FERGUSON lately delivered a lecture at the Royal Institution "On the Site of the Holy Sepulchre at Jerusalem," his object being to prove that the Church of the Holy Sepulchre is not erected on the proper site, and that the Mosque of Omar is built over the spot where our Saviour was buried. He arrived at that conclusion by inductive reasoning from a great variety of facts. In the first place, he contended that the building called the "Mosque of Omar" could not have been intended for a mosque, which term signifies any erection pointing towards Mecca. Even a wall placed in that direction is a mosque, the enclosures and roof and decorations being merely accessories; but the Mosque of Omar, as originally constructed, did not possess the essential requisites of a mosque, and what was intended for the principal entrance is on the south side, so that a person entering would have had to turn his back on Mecca, which would be considered an outrage in a Mahomedan place of worship.

Mr. Ferguson then considered the architectural features of the "Mosque of Omar," and pointed out characteristics which he considered indicated that it was

built in the time of Constantine, or between the years 300 and 400 of the Christian era. It was evidently a sepulchral edifice, and the elevated dome is erected over a remarkable rock, in the centre of the building, which rises above the level of the floor, and contains a small cave, and that, he had no doubt, was the real Holy Sepulchre. He had come to that conclusion when at Jerusalem about sixteen years ago; he had seen drawings of various parts of the interior taken by two English artists, who had obtained a special firman to enable them to do so; and that opinion was confirmed by the evidence he had since obtained, which proved that the building was of the age of Constantine, that it was intended for a sepulchral building, and that it occupies the position assigned by ancient writers to Golgotha. Mr. Ferguson referred to the works of Eusebius, Josephus, and of Clarke, in confirmation of his views, and he contended that the building known as the Church of the Holy Sepulchre exhibits none of the characteristics that should distinguish the real site. The rock inside is a mass of granite, which must have been carried there from some distance, for the rock on which Jerusalem is built is limestone. Neither does the antiquity of the recognized site add much to strengthen its authenticity, for it could not have been fixed upon earlier than the time of the Crusaders. Mr. Ferguson then proceeded to combat the objections that had been raised to the opinion that the Mosque of Omar is the real site of the Holy Sepulchre, the principle of which was that it is built within the present walls of Jerusalem. In answer to that objection he referred to Josephus and to other authorities to show that the ancient walls of the city did not include the site of the Mosque of Omar, an additional wall having been built which encloses within the boundaries of the city several of the holy places that formerly were outside the walls of Jerusalem.

The lecture was illustrated by drawings and photographs, representing the Golden Gate, the interior and exterior of the Mosque of Omar, and of the Church of the Holy Sepulchre, and elevations, showing the distinguishing styles of architecture which marked the dates of their erection.

#### THE ALBERT MEMORIAL.

ON Saturday the Committee recently nominated by the Queen to advise Her Majesty in the choice and execution of a design for the proposed national memorial of the late Prince Consort held a preliminary meeting at the town residence of the Earl of Derby.

Her Majesty having, by the letter of General Grey, addressed to the Lord Mayor, intimated that "nothing would be more appropriate, provided it is on a scale of sufficient grandeur, than an obelisk to be erected in Hyde-park, on the site of the Great Exhibition of 1861, or on some immediately contiguous spot," the Committee at their meeting on Saturday addressed themselves to the consideration of how the wish of the Queen could be best carried to a practical and satisfactory result. Deferring for the moment, as a matter for ulterior consideration, the various questions relating to the artistic groups with which it is in contemplation to surround the monument, and on which it is proposed eventually to employ the most eminent artists of the day, the Committee confined their attention to the possibility of procuring a monolith, or single stone of granite, of the most imposing height and dimensions in other respects for the intended obelisk. They were informed that among the most noted granite quarries in the kingdom are those of Aberdeen and Peterhead; Chesham, in Cornwall; Haytor, in Devonshire; and that of the Duke of Argyll in the Island of Mull; those of Peterhead and Mull yielding red granite, and the rest grey. The opinion of the Committee appeared to be in favour of red granite rather than grey, the indestructibility of the material being equal. The prime object, however, being to obtain the grandest single block of stone which the country is capable of producing, having regard to the fund which may be ultimately placed at the disposal of the Committee by the liberality of the nation, the preference for red granite would probably be waived if it were shown that any of the grey quarries could yield a larger monolith than the red ones. The subject underwent much consideration, and eventually it was decided that measures should be taken forthwith to obtain, from those best able, from their knowledge and experience, to afford it, information as to the quarter from which a block of granite may be quarried calculated to answer the condition on which Her Majesty appears to have decided in favour of an obelisk—namely, that it be on a scale of sufficient grandeur. The total amount received in aid of the fund is now over £28,000.

\* See page 114, ante.



CAPITALS FROM THE OXFORD MUSEUM.









of the visitors, dining-rooms, bedrooms, &c., &c. The accommodation included five or six flats for raising lodgers, provisions, &c. letters, &c. besides the great hydraulic hoist for taking up visitors. He also stated that it was proposed to erect an hotel at Liverpool, to accommodate 800 persons; at present the scheme was in abeyance, but it was hoped the proposed hotel would be erected some day.

Mr. JENKINGS seconded the vote of thanks for the valuable papers which had been read that evening. The material to be used for floors was a matter that all architects should attend to, and he thought the material to be used for the formation of floors would be a matter for the consideration of future builders of hotels.

Professor KERN said Mr. Curry, in his paper, stated that he had made no attempt to make his hotel at the London-bridge—proof—(A Voice: He said so.) That seemed a most extraordinary thing. The essence of fireproof construction was not the making a building fireproof by the use of incombustible materials, but to make the fabric in such a way as that it should not be drawn through a hollow space and communicated to other portions of the building, thus leading to its destruction.

Mr. MOSELEY said that in the case of his hotel there was no chance of draft.

The CHAIRMAN, as representing the tenants of nearly one-half of the Westminster Palace Hotel, could bear his testimony to the soundness and substantial character of the building, which was tested by the great weight placed upon it by the Council for India. In this hotel the soil-drains were made in flanged iron pipes, which was a great advantage, and kept away smells. Another point of importance was the very satisfactory way in which the whole had been floated on the surface, as it were, of a very bad bottom. He had not seen any sign of sinking in the walls, and considered that the building was a fine specimen of a factory the building had stood as it did. The principal entrance and staircase formed a very pretty part of the building.

A vote of thanks having been passed by acclamation, the meeting separated.

#### ARCHITECTURAL ASSOCIATION.

An ordinary general meeting of this body was held at the Rooms, 9, Conduit-street, Regent-street, on Friday evening; Mr. BLASHILL in the chair.

The CHAIRMAN stated that the Association were now possessed of a book-club. He would be glad to receive donations of books from the members and their friends. He said he had received a letter from Mr. B. C. Herring, stating that he was prevented from attending the last meeting to read a paper in consequence of illness, and expressing his willingness to read the paper on any vacant evening of the session.

**Surface Decoration.**—Mr. R. O. HARRIS then read a paper on "Surface Decoration," which will be found in another portion of this Number.

The CHAIRMAN said they had not much time left for the discussion of Mr. Harris's very talented paper, which contained a large mass of most interesting matter as to the modes of operation for the purpose of producing various kinds of surface decoration. Such a paper would be well followed up by one on design in decoration.

Mr. GREGORY gave some particulars respecting a table-top he exhibited, and which was referred to by the lecturer. The table is a scagliola mosaic, in imitation of Florentine marbles, and is, we understand, to be shown at the Great Exhibition.

Mr. PARARE suggested the adjournment of the discussion upon Mr. Harris's paper; and it was agreed that the discussion should be adjourned, and take place on the first evening an opportunity presented itself.

A vote of thanks having been passed to Mr. Harris, the meeting separated.

#### CAPITALS FROM THE OXFORD MUSEUM.

WE HAVE ILLUSTRATED, on another page, four capitals, selected from those executed in the new museum at Oxford. The building and its decorative features have been fully described in former volumes.

#### IRISH MEMORIAL TO THE LATE PRINCE CONSORT.

THE Lord Mayor of Dublin has addressed a letter to the Hon. Charles Grey expressing the desire of the Corporation and citizens that a memorial should be erected in Dublin to commemorate the exalted private virtues and eminent public services of the late Prince Consort. His lordship stated that in all parts of Ireland an equally unanimous wish prevailed that a suitable record of this universal feeling should be preserved. He, therefore, wished the subject of the proposed memorial to be submitted to her Majesty, with a view to receive her gracious sanction. To this communication General Grey has replied in the following terms:—I have the honour of receiving your lordship's letter of the 28th February, and having taken the Queen's pleasure upon it, I am commanded to say that her Majesty cannot but be deeply touched by the assurance it contains of loyal attachment to herself and of sympathy with her in her bereavement, as well as the gratifying assurance that there is a separate national monument erected to the Prince's memory in Dublin. It is also much comfort to the Queen in her affliction to receive this proof of the affection and respect entertained for the Prince by her Irish people, and of their appreciation of his excellent character; and though she does not think any special sanction from her necessary to enable them to give effect to their wish, she must assure them of her hearty concurrence in it, and of her best wishes for its successful accomplishment.

SIR CHRISTOPHER WREN.—At a meeting of the Photographic Society, held on Tuesday evening, Mr. Glaisher, F.R.S., in the chair, considerable interest was excited by the exhibition on the table of a series of photographs illustrative of the works of the renowned architect of St. Paul's.

The Emperor of Russia has just decreed the gratuitous concession of two hundred square yards of land, situated at Great Norkaia, Saint Petersburg, for the construction of a church of the German reformed religion.

#### Reviews.

**The Year Book of Facts in Science and Art.** By JOHN TIMBS, F.R.S. Lockwood and Co.

MR. TIMBS'S annual volume is, as usual, full of interesting facts concerning the progress of science and art during the past year. There is also in the volume for 1862 a biographical notice of Mr. W. Fairbairn, with a portrait. Mr. Timbs has so long exhibited an unparalleled industry, combined with good taste, as a collector, that we need do little more than recommend his book to the notice of our readers.

**Report on the Vital, Sanitary, and Economic Statistics of Glasgow for 1861.** By JOHN STRANG, L.L.D.

THIS annual report by the Chamberlain of Glasgow contains very nearly all the information obtainable on the vital, sanitary, and economic statistics of the city.

At the commencement of the present century Glasgow contained only 85,700 inhabitants; six years ago the numbers collected at Glasgow amounted to £427 only; but at the last census the population of Glasgow was returned at 440,030; while the customs collected now amount to £204,263. Glasgow is a rising city.

MR. STRANG'S report is most comprehensive; he treats on, and gives as facts relating to, the population, births, diseases, mortality, burial, home building, water supply, and many other matters. He tells us that the number of dwellings-houses within the parliamentary boundaries of Glasgow in the year 1861-62, namely, as collected by the Chamberlain of Glasgow, was returned at 210, and upwards to 19,846, or to a total of 87,520. And when we compare the gross number of houses of 1829-30 with those of 1861-62, we find an increase in favour of the latter of 4,358. Considering the number of residences altered in places of business, and the vast increase of dwelling-houses erected beyond the limits of the parliamentary boundaries for the accommodation of many of the persons who are employed within the city, the increase seems greater than might have been expected. Under reduction of the persons residing in public institutions, which reduces the population to 390,110, the number to each occupied and unoccupied house is 1 to 4 of the population. These houses are chiefly supplied with water from Loch Katrine. During the year 1860 the water from this highland loch, distributed on the north side of the river, amounted to no less than 18,000,000 of gallons. This prodigious consumption having attracted the notice of the Commissioners, an inquiry was made into the matter, when it was calculated that about 7,500,000 had been daily running to waste through old and leaky taps. The measures taken for reducing this waste succeeded so far as to reduce the daily consumption at the midsummer of 1861 to 15,000,000 gallons; but from the period when the Loch Katrine water was sent across the river into the west part of Glasgow the consumption increased to 17,000,000 gallons, and which, when added to the supply from the Forth, works, the total daily quantity supplied to the city and suburbs 21,000,000 gallons, or about 40 gallons per head of the population supplied. That this is a very large supply is shown from the following table, which was prepared in 1859:—

Towns.	Population within limits of Supply.	Daily Supply, in terms of Inhabitants.	Daily Supply, in terms of Inhabitants.	Cost of Distributing.	Daily Supply, for every Inhabitant expended.	Proportion supplied in Public.
		Gallons.		£		
London .....	2,666,511	81,795,842	30-3	1,052,882	11-4	
Paris .....	1,100,000	38,250,000	21-	800,000	7-6	20,000,000
Hamburg .....	160,000	5,600,000	31-25	170,000	29-50	
New York .....	312,000	29,000,000	27-	1,800,000	15-3	
Manchester .....	500,000	11,000,000	22-	1,000,000	8-5	14,000,000
Liverpool .....	500,000	11,000,000	22-	1,000,000	10-	
Leeds .....	185,000	1,500,000	20-	150,000	10-7	
Birmingham .....	315,000	4,000,000	27-5	450,000	7-8	2,700,000
Glasgow .....	400,000	1,750,000	18-7	139,000	12-5	
Aberdeen .....	65,000	1,200,000	18-4	30,000	11-4	
Greenock .....	38,000	2,125,000	57-8	90,000	23-8	
Edinburgh .....	45,000	1,071,422	21-	60,000	17-	

It appears from this table that the daily supply furnished to Glasgow is, with the exception of Greenock, the greatest among the cities enumerated. In fact, the supply is too great to be properly applied, and has led to the existence of the following evils:—want of cleanliness and of waste that will be henceforward difficult to eradicate.

There are three model lodging-houses now opened in Glasgow. One is in Gleadyside-crook, with accommodation for 134 inmates. The accommodation is a single berth for each person, opportunities for cooking are not to be had, the necessary cooking utensils being supplied, lavatories with a plentiful supply of water, also soap and towels. There is a large sitting hall, which is supplied with newspapers and periodicals, also a library and reading-room; the hall is well lighted with gas, and comfortable fire is maintained in the grate on all weather. The charge for this is 2d. per night, or 1s. 6d. per week of seven nights. There are more expensive berths at 4d. per night, or 2s. for seven nights; and at 6d. or 3s. per week. The number accommodated during the last year was 7,740.

The second establishment is in Macalpine-street, and can accommodate 208 males. The house consists of four flats, and has good accommodation for cooking in a large sitting-room on the ground floor where the inmates have the use of a small library, newspapers and periodicals, and a smoking-room is also attached. Lavatories and water-closets are placed in connection with each ward. The charges are 4d. and 6d. per night, or 1s. 6d. 2s., and 3s. per week of seven nights. The number accommodated during the last year was 16,671.

The third establishment is in Carrick-street, which lodges 300 females. The general accommodation in this house is much the same as the males' home in Macalpine-street, the charges are 3d. per night, or 1s. per week of seven nights; a better mode of accommodation is provided at 1s. 12d. at 4d. and 6d. per night. The numbers lodged during last year were 35,231.

With respect to the sewerage of the city, the total length of the main sewers within the municipal boundary is 60 miles, and within the built portion of the





therefore came to the resolution to have a stone one, as provided in the original specification; and to meet the additional expense two of the directors subscribed £20 each.

**Buddleigh Salterton, near Exeter.**—A public assembly-room has been opened at this place. The principal room is 50 feet long by 26 feet wide, and 18 feet high. There are committee-rooms attached, together with a residence for a person to look after the premises. The building is in the Italian style, with central drawings. The ceiling is painted blue, with ornamental ironwork, ceiling, and ventilators. It will accommodate about 500 persons. The architect is Mr. W. T. Cross, of Exeter. R. Burch, of Buddleigh Salterton, was the contractor.

**Norwich.**—It is proposed to erect a corn-exchange here, which will be suitable for lectures, concert sales, &c. The architect has hitherto been no provision for accommodation. A site in the market-place is thought most suitable. The total cost is estimated at £2,000.

**Bath.**—A report, to be submitted to the Town Council at its next meeting, has been published embracing the suggestions of the Market and Borough Property Committee, for improving the Bath Market and the approaches thereto, according to the plans prepared by Messrs. Hicks and Isaacs, architects. The summary of the whole expenditure involved in the erection of the works is estimated as follows: The market-house, £10,000; new entrance from Bridge-street, &c., £1,000; new slaughter-houses, £1,400; the purchase of Bruce's premises, £180; total, £9,580. The committee, in conclusion, state that, assuming the total as not exceeding £10,000, they would suggest that £1,000 of that amount should be charged as an extraordinary expense upon the borough fund for the year beginning September 1st, 1862. For the remaining £9,000, supposing it to be raised by mortgage or bond, they have good reason for believing that the annual and plus-bonded scrapping from the water rents will reach a sum of £500 a year, which would be more than adequate to provide for the interest of the money borrowed, and repayment of the capital by annual instalments, without any addition to the cost to the borough.

**Deal.**—The Admiralty have consented to the construction of a pier at this place on iron piles, stretching 920 feet out to sea, with a general width of 20 feet, and, at the head, of 40 feet; height of platform above high-water mark, 13 feet, and an average depth at the head of the pier at low-water spring tides of 10 feet, so as to insure the passage of all embarking and disembarking craft.

**Wilson Monument, Paisley.**—A monument is about to be erected at Paisley to the memory of Alexander Wilson, "a Paisley poet and American ornithologist." The design has been selected in competition, and is by Mr. J. Mossman, of Glasgow. A figure of the Ornithologist stands before the trunk of a tree, his rifle beside him, and his sketch-book on the ground. He has just shot a bird, and holding the specimen in his hand, he regards it with observant and contemplative look. The figure is to be of bronze, 7 feet 6 inches in height, standing upon a massive pedestal of Aberdeen granite, 9 feet 6 inches—the entire height of pedestal and statue being thus 17 feet. The subscriptions on hand amount to nearly £500, and about £100 more will be required to complete the work.

**Morgan Hospital.**—In this new hospital, says the *Dundee Courier*, which is to be placed on a triangular site, between the Victoria and the Victoria and Forfar Roads, is in the Scotch Baronial style of the sixteenth century, and with various French features introduced, consists of four facades, enclosing an oblong court, 125 feet by 50 feet. The principal entrance face is 163 feet long. In the centre of this front is a large arched gateway, 9 feet high, and the principal line of the rest of the front, and containing the chief entrance to the building. The tower is 30 feet broad at the base, and terminates at a height of 90 feet, in a steep slated roof, finished with an ornamental iron ridge. At each of the four corners of the tower, and 40 feet apart, is a square bell-tower, with a circular turret, carried up some feet above the tower, and capped by a steep slated roof, terminating in a pinnacle, at nearly the same height as the roof of the tower. The tower is flanked on each side by a large bay-window, on corbels at the level of the first floor, and rising up with a gable, with cross steps. At each end of this elevation is a cross-stepped gable, projecting 11 feet beyond the main line of front. These gables have at their angles ornamental shafts, with carved bases and capitals. In the centre of each gable is a corbel, from which springs a shaft with base and carved capital, supporting a chimney stack on the apex of the gable, and on each side of this corbel shaft there is, in the first-floor, a large window, in the head of which is carved tracery. Between these gables and the shafts on each side is a large bay-window, with a pedimented front. The two flank elevations are two stories in height, with a steep roof, with ornamental ridge. The flank elevations, which are 120 feet long, correspond in style with that already described, but are varied in design. The portion between the chimney stacks is a small elevation, and is of ecclesiastical character. Entering the building by the principal door in the tower there is an entrance hall 30 by 10 feet, at the further end of which is a large bay-window looking into the inner court. On each side of this hall runs the main corridor of communication, 8 feet wide, and lighted by windows looking into the court. At the end of the corridor, on the stairs to the upper floor, on the right-hand side of the entrance hall, are three class-rooms, 30 by 22 feet; boys' dining hall, 45 by 24 feet; master's and matron's dining-room; master's private-room; lavatory, &c. And on the left side of the entrance hall are the trustees' room, 25 by 31 feet; clerk's room and safe; library for the boys; two rooms for the matrons; and two stores for keeping boys' clothes. Communicating with this end of the corridor, and the principal bay-window entrance from the grounds, is the master's house, of seven rooms, besides kitchen and servants' accommodation. The kitchen offices of the hospital occupy the fourth side of the square, and are connected with the main part of the building by a covered passage running round three sides of the court. The commodious provided in them on the ground floor consists of a kitchen, 25 by 21 feet, scullery, pantries, laundry store, washing-house, and drying closet; and in a sunk cellar a depot for coal-bedrooms for servants. At the principal bay-window entrance, there are large dormitories, with windows on both sides; and there are also two dormitories on the east side of the building. The total superficial area of the dormitories is 650 feet. Above the dining hall is the chapel, and at the south-west corner of the building, and at the end of the range of the hospital, are two rooms, with bath, &c., scullery, and nurses'-room, lavatories and baths are also provided on this floor.

**Maidstone Depot, Maidstone.**—"We are sorry to hear," says the *Maidstone Journal*, "that our friends have been received protesting the rebuilding and enlargement of this garison for the present. This step has doubtless been taken from the pressure upon the finances of the country."

## TENDERS.

FARM-HOUSE, CHANTREY.

For a small farm-house at Chantrey, near Swanley estate, belonging to Robert Hawthorn, Esq. J. E. Watson, architect, Newcastle-upon-Tyne. Quantities not supplied.

Dodd and Herdman	£292 0 0	Foster and Hogarth	£212 0 0
Thompson	348 0 0	Surtees and Fairclough	344 0 0
Shawwell	245 11 0	C. and C. D. Dixon for portions of	
Giers	244 16 0		101 15 0

## LUNATIC ASYLUM, KENT.

For lunatic asylum at Stone, Kent, for the Corporation of the City of London. February 24th, 1862.

	In Portland Stone.	In Aylesbury Stone.
Wheeler	£43,500	£45,400
Holland and Hansen	44,000	45,000
Hyder	44,200	42,000
Hilgert	43,445	43,000
Sewell and Son	43,196	40,106
Trollope	42,670	41,790
Brown and Robinson	42,600	40,820
Smiler	42,600	40,400
Lewis Brothers	42,300	41,520
Hill and Co.	41,600	40,000
Miers	40,817	40,100
Astford and Co.	40,140	39,600
Ashby and Horner	39,070	39,000
Pearcy	39,255	37,575
Whitton	39,425	38,925
Piper and Wheeler	38,464	37,744
Clibb and Co., declined	—	—
Mansfield and Sons, declined	—	—

## CHURCH, SUFFOLK.

For the erection of the free church of Kirkhamstead, near Wymondham, Norfolk.

Robert Harris	£265 0 0	David Richardson	£218 0 0
James Johnston	250 0 0	J. Webb (accepted)	210 0 0
Todd and Pagan	238 10 0	J. Joseph Thompson & Co. (accepted)	209 0 0

*Messrs' Works.*

Joseph Bagdon	£100	Joseph Davidson	£137
John Lawder	117	Samuel Gage (accepted)	126

*Final.*

William Dickson	£23 10 0	E. and L. Laidlaw (accepted)	£24 10 0
John Bridges	25 0 0	Thomas Bridges (accepted)	£24 10 0
Archibald Hutchison	25 0 0		

## MANHUR, IRELAND.

For additions and alterations to Levenshoe House, near Omagh. Messrs. Boyd and Batt, architects, Belfast and Londonderry. Quantities taken out by Mr. Fetherston.

McLellan, Omagh	£2,850 0 0	McGaughey, Omagh	£2,100 0 0
McLellan, Londonderry	2,220 0 0	McClintock (accepted)	1,775 19 0
Stewart, Belfast	2,181 0 0		

## PUBLIC-HOUSE, HUNTINGTON.

For erecting a public-house, at Huntington. Mr. Robert Hotcham, Huntingdon, architect.

G. B. Mollie	£279 0 0	F. Brown	£255 0 0
W. Cunliffe	269 0 0	G. Richardson	241 0 0
W. Palmer	266 0 0	C. Mason (accepted)	243 17 0
J. Saint	261 0 0		

## SCHOOLS, BANWELL.

For erecting Banwell National schools. Mr. Hans F. Price, architect, Weston-super-Mare.

James Thornley	£225	John Palmer	£235 0
Wm. Bruck	220	H. B. Tricker	252 15
Samuel Lacey	200	W. W. Howlett (accepted)	257 7

## WAREHOUSES, WHITFAPLE.

For the erection of No. 4 warehouse, Commercial-road, Whitechapel, for M. Levy, Esq. Mr. H. H. Collins, architect. Quantities supplied.

F. Hanson	£6,040	Tipper and Wheeler	£4,716
Lawrence and Sons	6,000	Tipper and Sons	4,656
Ashby and Son	6,000	Meary	4,309
Lawrence and Sons	6,000	B. King (accepted)	4,296
Ashby and Horner	6,000		

## CATTLE MARKET, COVENTRY.

For draining the ground, constructing oak pens for sheep and pigs, and stands for oxen, paving the pens with hard bricks, and the roads with Keston flag, and gravelling the remainder of the site. Messrs. J. H. B. and J. H. B. and J. H. B.

J. Sawyer	£1,903 0 0	Lee and Baker	£1,496 10 0
Lawrence	1,800		
Rayner and Robinson	1,291 10	H. Orrin	1,344 10
R. Start	1,513	H. Smithson	1,150 0
R. Hawkins	1,441		1,130 0

The Surveyor's estimate was slightly over £1,200.

## ALTERATIONS, CORNHILL.

For alterations at No. 15, Cornhill, for the Metropolitan and Provincial Bank. Francis H. Esq., architect, 25, Fleet-street.

Asford and Co.	£1,797	George and Son (accepted)	£1,620
Rider	1,790		

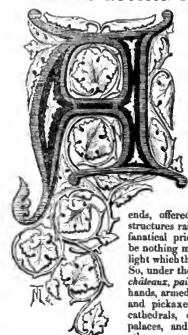
## COMPETITIONS OPEN.

## BRIDGES.

**BRIDGEMAN RIVER.**—The Municipal Council are prepared to receive designs and tenders for the construction of a bridge over the Bridgeman River, at Bridgeman, the capital of Queensland. The author of the best design, at the lowest cost, will receive a reward of £100, and be employed to superintend the construction of the bridge. The award will be made to the person whose design is the most successful, and who is the most experienced in his competency and experience in similar undertakings. A premium of £50 will be awarded to the next best design, and £25 to the third best. The designs and tenders must be sent to the Municipal Council, and will be retained by the Corporation as their property. The remainder will be returned to the competitors; but the corporation will accept of the designs of the second and third designs, and will accept of the designs of the competitors, who are to be distinguished by a motto only, and accompanied by a letter in a sealed envelope, marked with the name motto, and containing the name of the competitor, and the name of the person who has designed the bridge. The designs and tenders must be sent to the Municipal Council, and will be retained by the Corporation as their property. The remainder will be returned to the competitors; but the corporation will accept of the designs of the second and third designs, and will accept of the designs of the competitors, who are to be distinguished by a motto only, and accompanied by a letter in a sealed envelope, marked with the name motto, and containing the name of the competitor, and the name of the person who has designed the bridge. The designs and tenders must be sent to the Municipal Council, and will be retained by the Corporation as their property. The remainder will be returned to the competitors; but the corporation will accept of the designs of the second and third designs, and will accept of the designs of the competitors, who are to be distinguished by a motto only, and accompanied by a letter in a sealed envelope, marked with the name motto, and containing the name of the competitor, and the name of the person who has designed the bridge.



## THE DESTRUCTION OF CITY CHURCHES.



MID the bloodiest and darkest days of the first French Revolution there was formed a band—*la bande noire*—of speculative individuals, who assumed the utilitarian mission of converting into money, or to some purpose of practical utility, the architectural monuments which the pious or refined taste of their ancestors had raised to the greatest embellishment of France. The Convention wanted money to equip armies as apostles to the rest of Europe of the Religion of Reason, and as pioneers of French civilisation; and the Black Band, in their patriotic anxiety to further these

ends, offered their money in exchange for structures raised by a haughty aristocracy and fanatical priesthood—structures which could be nothing more than obstructions to the new light which the *Étre Suprême* shed over France. So, under their black flag, inscribed *guerre aux châteaux, paix aux humbles*, they went forth in bands, armed with sledge-hammers, crowbars, and pickaxes, and levelled to the ground cathedrals, churches, monastic structures, palaces, and mansions, where there were no other means of making money than from the

sale of old building materials. In districts where individuals offered to purchase from *la bande noire* confiscated edifices for conversion to useful purposes, care was taken to destroy statues, carved armorial bearings, and artistic ornaments, in order to efface traces of the inequality and superstition which previously existed. From the northern provinces, dotted with Flemish, and the best French interpretations of Gothic art; through Normandy, with its stately castles and mansions, and masculine styles, uniting force and grace into forms of beauty; through the valley of the Loire, where the pleasing works of the Renaissance stand on noble terraces sweeping down to the river; on to Limoges, where two styles of art may be said to have met; on their way northward, from the Lombard and Venetian cities of Italy, and from the Moorish towns of Spain, the destroyers passed, leaving a broad tract of senseless, purposeless, and irreparable desolation behind them.

The Convention—ignorantly indifferent as the members were to the opinions of posterity, and careless of everything that did not gratify their political passions—did not venture directly on works of destruction, although clearly responsible for the vandalism of *la bande noire*. In justice we should, perhaps, make a distinction between the Convention and the government of the Convention. If the Executive sold architectural works to ruthless destruction, the Convention, or some of its members, strove to preserve the artistic inheritance bequeathed by the past. An ex-bishop of Blois, a Conventionist, indignant at the degradation and destructions—for which he invented the term *vandalism*—petrated in the provinces, made several reports, and at last obtained decrees rendering the constituted authorities responsible for the preservation of national monuments and libraries. Of the buildings the Convention decreed national property and took possession of in the name of the nation, it did not openly proceed to destroy any, but converted them to some *quasi* useful purpose. In Paris the Archbishop's Palace was united to the well-known hospital, Hotel Dieu, and the conventual structures were most of them transformed into hospitals. Such was the destination of the Abbey St. Antoine, of the Benedictine Convent Rue de St. Yves, of the Monastery of St. Jacques, of the Convent at Chaillot, the College of Montaigu, the Convent of Val de Grace, and others. A Jacobin convent was transformed into an artillery museum. The Abbey of St. Martin was made the Conservatory of Arts and Trades, and the church is now a library. We scarcely remember an instance of the Convention pulling down a church, though it may have desecrated many. And it is, therefore, all the more surprising that what the Convention dared not do when its political and irreligious madness was at its height should be proposed to be done in London, under the patronage of the Bishop, and when we are at the fall flood of a religious revival.

A statement has been going the round of the press that the Post-office authorities have offered a sum, varying from £40,000 to £50,000, for the site of the church of St. Mary Woolnoth, to construct the Lombard-street branch thereon. This structure will, therefore, if the parishioners consent thereto, be forthwith demolished, and will be the first church

taken down under the Bishop of London's new Act, the 22nd article of which provides that the proceeds of the "first sale of property or materials" shall be appropriated for the payment of compensation incurred retrospectively or prospectively, in carrying out the provisions of the Act; "And the same fund shall from time to time be augmented by the Ecclesiastical Commissioners from the produce of similar sales of property as there may be occasion." The written consent of the Vestry is necessary before the scheme can be carried into effect.

Sentiment is, doubtless, excessively foolish; but there are few Englishmen—excepting, of course, Bishops and Ecclesiastical Commissioners—who can contemplate with indifference the destruction of an edifice consecrated to the worship of God, wherein our fathers were baptised, married, and solemnly dismissed to the grave through generations of men. The desecration of the graveyard—God's acre, as our fathers simply and reverently called it—is still more revolting to the laity. No consideration should be allowed to disturb the ashes of the dead.

Although this may be a matter of sentiment with Englishmen, and they may feel that they would suffer almost any personal inconvenience rather than pull down a church or disturb graves, it may be admitted that there are cases in which such proceedings may be tolerated—we cannot say justified. But every case must be judged by itself and *not* *en bloc*. Is there an excuse or necessity for the destruction of St. Mary Woolnoth? The excuse for the Bishop of London's Bill is, that in the city there are many churches without congregations, while, without the city, there are many congregations without churches. The city churches have rich endowments, and their sites are valuable; appropriate the endowments and prices of the sites, and the churches are understood to be the erection and endowment of new churches in the suburbs, says Dr. Tait. Certainly, the scheme looks very utilitarian—quite philosophical at first glance—but subsequent examination will show it to be the reverse. The first proposition of the advocates of the measure is that London contains nearly three million inhabitants and less than 500 churches, so 100 churches should be built. In this we may concur; by all means let us have the additional century of churches; but not old churches pulled down to build up new ones, for that would not alter the relative proportions of population and churches. Then, we are not sure that the figures represent the actual accommodation for religious worship. Turning to the last edition of the *Post Office Directory*, we find there enumerated 334 Established churches and 77 chapels of ease, 104 Wesleyan chapels, 100 Independent chapels, 89 Baptist chapels, 84 chapels of other Protestant Dissenters, making the total of Protestant places of worship 782. To these must be added 31 Catholic chapels, 10 synagogues, 8 Quaker meeting-houses, 7 Unitarian chapels, and 8 Greek chapels, giving the grand total of places of worship at 840 for a population of 2,860,534, as ascertained by the last Census, instead of the figures stated by the advocates of church destruction and extension. The figures as given corrected may not show that ample accommodation for public worship is provided in the metropolis, but they do prove that it is not so deficient as has been represented, for they show one place of worship for every group of population equal to 3,300 souls, instead of one for 6,000.

The history of church extension in the metropolis is well worth glancing at on the present occasion. When FitzStephen wrote, there were in London and the suburbs 13 conventual churches, and 126 lesser parish churches. Centuries later, when Stow compiled his "Survey," the number he gave for total was the same, 139; of these 89 were destroyed by the Fire, and of them 35 were not rebuilt. This would leave 104, independently of the two cathedrals, at the close of Wren's labours. From 1680 to 1850 there were built, independently of those erected by the present Commissioners, 56 churches for new parishes and districts; and the present Commissioners erected, at a comparatively small cost, 90 new churches up to 1850. Since then greater progress has been made, so that there is no room for charging the present generation with having neglected its duty in this matter.

Granted that the population has departed from the City churches, and that new churches are required in recently-formed districts, it does not follow that we should destroy what may now be unused. Before doing so—before resorting to so extreme a measure, we are bound to exhaust every other resource. The fabric of a church is not the property of a generation. We have only a life interest in it, and hold it in trust for those who may come after us. In common justice we cannot alienate it, unless it be in the interest of our successors. Were the number of churches within the City to be reduced to suffice the present resident population, there is no certainty the diminished amount of church accommodation will be adequate to supply the wants of the future resident population. There is just now a tendency to live out of the City; but, so far as the poor are concerned, that is a mistake, as they are equally likely to be drawn to the City as to the suburbs. In the style of building, and that, as London grows larger, architects will give a vertical direction to the growth of London; that is to say, erect lofty houses of six or more stories. Should this occur—and there are not wanting premonitory symptoms of this change—

nothing is more likely than that the resident population will augment. There will then be no church accommodation for them, and it will be impossible to provide it, except at very disproportionate cost. Under these circumstances, the destruction of City churches now will be an act of cruel injustice, of culpable indifference, having regard to the contingent requirements of the future. It is the duty of centres of population, where church accommodation is required, to provide it out of their own resources. Dissenters do so, and maintain their pastors without State assistance or legacies from the past. Classing them all as Protestant Dissenters, the figures quoted above show that they have built and kept up 377 places of worship, while the Establishment possesses no more than 402. Churches, as a body, are wealthier than Dissenters. We are, then, to suppose that their faith is cooler, and that among them the lamp of sacrifice burns feebler or is extinguished? We are fully prepared to admit the weight of the rejoinder about the difference in cost of constructing a chapel and a church; but when we have done so, that does not disprove the existence of energy and devotion among Dissenters, and of lukewarmness among Churchmen. If the learning and eloquence of a brilliant episcopacy and priesthood cannot quicken the zeal of Churchmen for their faith to the length of making their sacrifices for church extension keep pace with the increase of their wealth, still we contend that church extension is not to be obtained by church destruction. With the recent examples of the munificent exertions of laymen in this direction—of Miss Burdett Coutts, the Misses Monk, Mr. Hubbard, and Mr. Beresford-Hope—the laity cannot be so torpid as it is made to appear. Its zeal would be quickened if the Church herself set the example. A belief is current that the revenues of the Church are ample to satisfy all existing wants, if properly administered. Laymen read of sees the holders of which receive princely incomes, and apply them to the enrichment of their families; of Church lands leased for inadequate rentals, that present incumbents may pocket large fines; and of other sources of revenue which are diverted from the service of the Church. A case in point has been just published, which, without assuming a personal character, will admirably illustrate our proposition with respect to the perversion or diversion of Church income. Finbury prebendary is in the hands of the Ecclesiastical Commissioners, and yields an income of £7,000 a year. In seven years the income will rise to £66,000 annually. The greatest exertions have now made to prevent the same being applied to the erection of episcopal palaces, and to enhancing the rank and dignity of deans, while Londoners are without sufficient church accommodation, and are asked to demolish the monumental works of their fathers to supply the wants of new localities. The income of the prebendary it is sought from the Ecclesiastical Commissioners to have applied to provide endowments for fifty existing churches now without them, and for one hundred new churches to be built. This would leave a balance of £26,000—or, in other words, at 3 per cent, on capital of upwards of £860,000—for the erection of the fabrics. Surely here are means to provide the requisite church extension, without imitating the Vandals of the French Revolution. Let the Commissioners announce such an appropriation, and the laity will not be backward in aiding the good work to the utmost of their ability.

We have hitherto treated the question on general grounds, but if we narrow it to the case of St. Mary Woolnoth—and every case should be treated on its own grounds—the contemplated act of vandalism will appear particularly odious and architectural point of view. St. Mary Woolnoth happens to be the *chef-d'œuvre* of Nicholas Hawksmoor, the favourite pupil of Wren; it was built in 1719. The exterior is original and bold, remarkable for the solidity of its appearance, heightened by deep rusticated work. If it does exhibit some trace of heaviness, it also shows an air of magnificence, combined with harmonious simplicity of decoration. The interior is effective and well proportioned, "sumptuously beautiful," and ornamented with bold and rich decoration, and the plan remarkable, with all its classical simplicity and harmony. And this is the structure which all critics agree in praising, and is one of the few architectural monuments in the City, that is to be destroyed, under the sanction of the highest dignitaries of the Church.

#### INSTITUTION OF CIVIL ENGINEERS.

At a meeting of this Institution, held on the 4th instant, JOHN HAWKESLEY, Esq., President, in the chair, passed the report of Mr. E. L. J. BLYTH, member, "Description of the Loch Ness Viaduct, Fortpatrick Railway," and by Mr. R. P. BARRETT, member, "The Corporation of the City of the Breck, across the Tamar, at Saltash, on the Cornwall Railway, and of the means employed in its Construction."

At the monthly ballot the following candidates were balloted for and duly elected:—Sir John Benson, Messrs. J. F. Blair, D. Hutcheon, Johnston, J. Kershaw, T. E. M. Marsh, R. Milligan, R. Smallman, and W. T. Smart, are members; Messrs. H. H. Higge, J. Gordon, J. M. Harkness, R. Hudson, J. Oliver, and J. Pickers, are associates.

On Tuesday, the 11th inst., Mr. C. A. HARTLEY read a paper, entitled "A Description of the Delta of the Danube, and of the Works recently executed at the Bulina Mouth." The discussion was adjourned to the 18th inst., when, if time permits, Mr. J. A. HARRIS will read "A Description of Works at the Ports of Swansea, Sillitoh, and Blythe."

#### THE ROAD ACROSS THE PARK.

AFTER repeated attempts to do something very absurd, our crotchety A. and besotted First Commissioner of Public Works, has at length been obliged to surrender to a sensible line of action; but, even with his head straight to it, and with every detail clearly defined, he still wishes—as we shall presently show—to swerve crookedly in pursuing it. The deep trench and the close sewer are both abandoned. The necessity of a new bridge over the Serpentine, or of a tunnel beneath it, are given up. The common folk and hired vehicles, are to cross the park in the broad light of day, and in full view of the tenderly-cared-for equestrians. A portion of their exercising ground is, moreover, to be appropriated to a more extended public use. For this inch of sacrifice an acre of compensation will, doubtless, be sought hereafter in Kensington-gardens; but we must not look at a gift horse with both eyes, especially in the case of a Minister, who is so lucky in that one, even if Sir H. Mayne's excellent suggestions are conceded to us. The plan now—finally, we hope—settled, is to enter Hyde-park from the Haywater-road at the Victoria-gate, and to make use of the present roadway as far as the bridge. This, as our readers are aware, makes a sweep round the powder magazine. Now should we dispute why this out-of-the-way curl in the road could not be dispensed with, and the much shorter route behind the magazine be adopted? The road as it is, by its twistings and turnings, extends to nearly double the length of a direct road; the necessity for increasing it is not certainly perceptible to us.

The present railing, which divides the roads on the bridge, is to be removed some 6 feet, and every one knows that this is a most difficult task to keep clear, and yet, with two unavoidable contractions on the bridge, Mr. Cowper must needs inflict a third upon us within fifty yards of it, and this without the slightest necessity. There is no need to bend at all to the left on quitting the bridge; by slicing a few yards from a useless angle of Kensington-gardens, and filling up the ditch which runs along the bridge to the corner of Rotten-row, and by widening it from Hyde-park, with the superbantand gravel ready to hand upon the ground, a broad footpath might be obtained and the present one added to the roadway. Two birds might thus have been killed with one stone; but Mr. Cowper will always use two stones to one bird. We may be told that a railing would then be required on the new road, which would bound the property. We grant that, but in doing so we must add that the enclosure would then be effectual, which the present miserable contrivance is not, and that money would readily be granted for a manifest improvement. The road, after joining Rotten-row, does not cross it direct to the Exhibition, but crosses it at an angle, and then crosses it again to the Exhibition, opposite Prince Albert's road, at the far end of the Exhibition building.

This, at first sight, appears an unnecessary elongation of the road; but it should be remembered that the eastern entrance of the huge building will be of necessity the most crowded, and that any risk of a "block" at the junction with the Kensington-road is above all things to be avoided. An extended road of some 250 yards is more than compensated for by greater facility in reaching the building, and by decreasing the pressure in the most threatened portion.

The debate in the House of Commons, when Mr. Cowper asked for a vote of £2,000 to make this temporary road, proved clearly that a railing would be required on the new road, which would bound the property. We grant that, but in doing so we must add that the enclosure would then be effectual, which the present miserable contrivance is not, and that money would readily be granted for a manifest improvement. The road, after joining Rotten-row, does not cross it direct to the Exhibition, but crosses it at an angle, and then crosses it again to the Exhibition, opposite Prince Albert's road, at the far end of the Exhibition building.

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## PRE-RAFFAELITE PICTURES.

**M**ESSRS. Christie and Manson have within these few days, sold the largest collection of modern pre-Raffaellite pictures which has yet come to the "hammer." They were the property of the late Mr. Flint, a stockbroker, at Leeds, and cost him about £25,000. The varied style of art purchased by him—for although he possessed more pre-Raffaellite pictures than perhaps any other collector, among his water-colour drawing and oil pictures were found works of great merit by living artists—leads to the conclusion that he had been persuaded to buy out large sums in that peculiar method of painting, in the hope that it would become in the course of time a valuable property. The sale, however, to which we are now directing attention, has to a certain extent dispelled that illusion. An experience, if no benefit to him in his grave, may, we hope, prove beneficial to others who entertain the same belief in pre-Raffaellism. The results of that hope will be found in the three following instances:—The "Carpenter's Shop," by Millais, which, we believe, cost him upwards of £1,000, was sold to a dealer for 500 guineas; "Christ Washing Peter's Feet," by Madox Brown, which also cost him a large sum of money, was knocked down for 90 guineas; and the last picture in the sale by the Belgian pre-Raffaellite, Henri Leys, for which he paid £15,000, brought no more than 500 guineas. That very profane picture, called as profanely the "Carpenter's Shop," being the boyhood of Christ, has already gone back to nearly its first price, viz., £500. As more than £8,500 has been lost on the sale of this collection, it may be assumed although most of the other pictures by the Pre-Raffaellite painters, and school brought monstrous prices, that the loss upon them was proportionately large, especially as the pictures painted by legitimate artists obtained excellent amounts.

The downward tendency of pre-Raffaellite art, of which we have so constantly warned our readers, has set in earlier and more decidedly than was to be expected. Indeed, it is scarcely possible to calculate how far it has already gone, because the result of Mr. Flint's sale, marked as it is, gave but a very slight and uncertain idea as to the real state of the market for pre-Raffaellism. At the commencement of the picture season it is usual with the trade, if no good genuine collection is to be sold by auction, to get up a sale of their own, at which the purchases are of the most friendly kind, the object being merely to establish prices for the rest of the London season. If this proceeding is necessary with regard to the ordinary productions of art, how essential it must be with regard to so valuable a collection, and for which there are comparatively so few buyers, as the paintings by pre-Raffaellites. Thus, had not the dealers in them bid liberally at the sale, the whole concern would have "caved in," and not only would have immediate selling been stopped, but future operations would have become hopeless. Under these circumstances, the results of the sale, which early raised the £8,500 lost upon this sale does not represent with accuracy the real deterioration in pre-Raffaellite pictures. Besides the causes given above for the delusion being kept alive as long as possible, it has another source of vitality through having become a party question, but unlike Swift's saying that "party is the madness of the multitude," it is the madness of the individual. A few for the gain only of a few, for there are dealers who won't "keep the article," and if we may judge from the audible remarks and laughable jokes passed in the room during the sale, a very few of the lunatics could have been present—except, of course, those who have "method in their madness"—the sellers and the makers of the peculiar merchandise.

But out of this madness let us endeavour to extract something useful and remarkable. With respect to the latter, we wish to direct attention to the want of consistency or style in the works of the leading pre-Raffaellite painters. Take the drawings by Millais to the "Framley Parsonage," "The Carpenter's Shop," and the "Black Brunswicker"—all three as different in treatment as it is possible to conceive. Take "Christ Washing Peter's Feet," "Our Lady and Child," and "The Last Supper," by Madox Brown. Again, take "The Return from Marston Moor," "Gondomar witnessing the Execution of Raleigh," and "Elaine," by Henry Wallis. Each of these painters has produced results among these pictures belonging to epochs of art from the Mediaeval period to the present day, and we are asked to believe that they are currently sincere, earnest, and honest painters. Madox Brown painted his most Mediaeval pictures last year, and the other the year before; but his picture most modern in style was painted in 1852, a period of ten years before the others. The most Mediaeval picture, the "Return from Marston Moor," by Wallis, was exhibited two years ago. If Millais, it is remembered, is a consistent and that the most affected of his pictures in the sale was painted in 1852, but the tone and finish he displayed at that time are both lost in his more recent work, the "Black Brunswicker." There is another remarkable fact worthy of notice, which is that pre-Raffaellite pictures do not improve with age. The yellowish red satin of the lady's skirt in the "Proscribed Royalist" is as much like copper as it ever was, and the white satin dress of the lady in "The Black Brunswicker" is, if possible, more like tin than when it was first exhibited. In conclusion, we think the following hint may prove useful to young painters. It was decidedly proved at the sale, that whether a picture was painted by a pre-Raffaellite or not, brilliant effects of light and shadow, and a strong and marked expression, obtained the most attention and brought the largest sums of money, particularly if distinguished by a quaint and catching hint. The fact being so, there is not the slightest excuse for attempting old-fashioned quaintness or absurd antics in art. A good subject, well and legitimately painted, will certainly meet with a liberal reward.

## A LATE COMBATANT.

**I**F it were possible for any one to slumber uninterruptedly for a twelve-month, we should think that such a calamity had befallen a gentleman who in the current number of the *Art Journal* signs himself "an Architect." He seems suddenly to have awaked to a sense of the utter ugliness of the new Exhibition, and, like a boar, he attacks his prey with a voracious appetite, even before he has had time to inquire whether it be worth a display of his energies, and whether it has not already been done to death. We do not notice "an Architect" with a view of defending the Exhibition; but he takes upon himself to censure the lions of the profession for omitting previously to demolish so outrageous a defiance of their taste. He complains that the architects—by which we suppose he means the heads of the professional societies—said nothing, and that the *Builder* and *Building News* also said nothing, although the most inexperienced in art regarded the building with suspicious misgivings. We would here recommend "an Architect" to turn over the last volume of our Journal; he will there find that not only did Mr. Tite, in the name of the Institute, deem it his duty to "protest against the official exclusion of architects from the councils of those who assume to represent the taste of the nation in the various branches of art," but he anticipated (see page 871) the cheers with which "a minor architectural profession" was received at the Society of Arts, and which, seems, from "an Architect's" letter, to be the spur which has occasioned his spasmodic action.

Mr. Blomfield, also, in his inaugural address at the Architectural Association, spoke of the "monster which is now developing its vast anatomy at Brompton," and which "was hatched without the decency of even a nominal architectural incubation." Moreover, we have ourselves in special reports never failed to point out the defects of the building—the long line of dullness in the Cromwell-road, the mistake of believing ugliness and grandeur to be synonymous terms, the want of harmony between the forms of the nave and the courts' roofs, all of which "an Architect" fancies he has newly discovered. We have praised the highly respectable picture gallery whilst condemning its decoration, and have protested against filling the senseless blank arcades with mosaics, or spending a penny in the vain attempt to render the building passable. We have done even more than this—more even than "an Architect" does now even in two pages of pious howling have shown that we were not without the means of dealing with the task of preparing all the detailed working drawings, so that even the merit of construction is not even due to the military engineer, and that Mr. Sykes and his pupils have designed what few decorative features are seen in the building. We have certainly applauded the untiring exertion of the contractor, and have not even refused, simply because Mr. Fowke was not "a regularly educated architect," to give him praise where we believed he fairly earned it. Nearly every newspaper has lamented the want of taste flannishly displayed at Brompton. Mr. Cole, in his handbook, is its only avowed champion; he loves it with the affection of a maiden aunt, and, as *the Times* for a fortnight since, could be easily explained—as but a wily expansion of Mr. Cole.

We are at a loss to see the object of "an Architect's" letter. In one part he fears that "foreign visitors will look upon the building as the best thing that we could accomplish, when we set the full architectural power of the nation at work," whilst at the end of his communication he says, "we know we have amongst us architects of the very highest ability." It is certainly too late to prevent the building answering the purpose for which it was built; when there was a chance of the "job" being frustrated, we did our best to defeat it; now that the building is an accomplished fact, it is idle to be ever harping upon the same string. If we had not shown our house and are obliged to live in it, let us smother our ill temper and show our own taste by furnishing it artistically and creditably, and be determined to withhold even a shilling towards covering with mosaics that deformity which ought never to have afflicted the eyes of friendly neighbours; one might as well set diamonds in the trunk of a tree as put Lucca tiles on the roof of the Cromwell-road front. It is of no use waiting over that which cannot be remedied; let us rather look ahead and guard against any similar surprises. We have yet to learn the real object of the picture gallery having been made a permanent building; to prevent South Kensington from being for ever a hot-bed of amateurs who believe that their dolls and Brompton are the only things that matter, and to make it what it was intended to be, a School of Art and Science.

The fault which "an Architect" finds with the building are most of them true enough, but we think if he had devoted the time given to his long article to a careful perusal of the *Building News*, he would not only have seen the great inability of public opinion, but, at the same time, had reason to get rid of his complaint against the architects and ourselves. But if our surprise is great that "an Architect" should have supposed us guilty of indifference in the matter, it is still more so that our contemporary the *Critic*, should endorse that portion especially of his communication which would lead us to know that he was not exempt from the same predisposition. The Exhibition building as an exponent of English architecture, as well as it knows that that reputation is deserved. It is rather too bad after doing a soldier's duty to be told by the latest reinforcement that one has been all day carousing in an enemy's camp. When another fight has to be fought, and though we have long looked to the "Architect" and the *Critic* for our side at the commencement of the fray.

## ST. STEPHEN'S CHURCH, SPITALFIELDS.

THIS church is a plain, but substantial structure, designed to fit a site of very peculiar shape. It is consequently somewhat unusual in its external form, but so arranged as to occupy and make available for accommodation every foot of ground upon which it stands. Its most striking peculiarity is the western apse, which, though not unprecedented, being by no means an uncommon feature in German churches, has not hitherto been much used in this country. It is in this case the natural termination of a nave, the centre line of which strikes upon the angle formed by two streets, and it is by the adoption of this form that every part of the site has been rendered so entirely available.

The church was originally designed with two towers, terminating in spires, but the most stringent economy having to be practised in every part, they were necessarily omitted.

Exclusive of the apse and chancel and its aisles, the form of the church within is an exact square, of 61 feet 6 inches, divided into nave and aisles by arcades, supported by four pillars only, two on either side.

The nave is 28 feet wide; the north aisle, 15 feet 8 inches; the south, 12 feet 4 inches. The chancel is 28 feet by 19 feet, and the depth of the apse, 31 feet. On either side of the chancel are aisles continuous therewith, exclusively occupied by children's seats. The height of the nave to the square is 27 feet, and to the ridge 49 feet, being 15 feet less than was originally intended.

The aisles are divided externally into three bays, each surmounted by a gable, for the purpose of admitting large three-light windows, on which the illumination of the interior is chiefly dependent. The apse has two stories of windows—one below the other—stepped up in gradation to its rise, and the other of narrow openings above the backs of the seats. The eastern end of the site being to be blocked by houses, a window in the gable only was practicable, and the chancel is lighted by side windows over the roofs of the children's aisles.

The walls of the church are built and faced with plain stout bricks, intermixed externally with red and black bricks; and the arches and piers internally are faced with red and white bricks.

The church is fitted with stained lead internally.

Every part of the building is finished very plainly, the capitals of the pillars, corbels, &c. being the only ornaments which are introduced.

The cost of the building has been as follows, the amount having been considerably increased by the great rise in the price of bricks, which occurred before the contract was taken:—

Builder's contract and additions, including carving, and extra for extra work.....	£6,013
Heating apparatus and fuel, by Haden, of Trowbridge.....	109
Carpetings by Skidmore.....	126
Bell and fittings.....	29
Fittings and furniture.....	29
Total.....	£6,303

The architect was Mr. Christian; the contractors, Messrs. Browne and Robinson; clerk of works, Mr. J. O. Abbott. The foundation-stone was laid in October, 1860, and the church was consecrated on December 6th, 1861. The church answered admirably well, even in the extreme wind of the apse being equally good for hearing as those in the body of the nave, and, owing to the width of the nave, and large span of the arches, there was not a seat in the church which does not come within view of the preacher.

## PROFESSOR BARLOW, F.R.S.

WE have to record the death of Professor Barlow, the author of the "Strength of Materials" and many other works. He was born in Norwich in 1776. In 1800 he was appointed one of the mathematical professors at the Royal Military Academy at Woolwich, which office he held until 1827. His discovery of the means of correcting the local attraction on the compasses of ships brought him into great notoriety, and he received the Copley medal, and was elected on the Council of the Royal Society. The Board of Longitude conferred upon him the reward provided for useful naval discoveries. The Emperor of Russia acknowledged the value of the invention, and presented him with the diploma of the Imperial Academy of Sciences at St. Petersburg, and he was elected a corresponding member of the Institute of France and the Royal Society of Brussels, besides other rewards and honours. He was associated with Mr. Telford in experiments for the Menai-bridge. He was then committed in reference to the removal of Old London-bridge. In 1860 he was appointed one of the Irish Railway Commissioners, with General Sir John Burgoyne and the late Mr. Drummond, and subsequently appointed on three other royal commissions relating to railways in England. In 1847 he retired from the Royal Military Academy, and the Government awarded him his full income for the remainder of his life, in consideration of his services to the State and his distinguished character, and his kind and cheerful disposition, endeared him to a large circle of friends. He died on the 1st of March.

THE NEW COPYRIGHT BILL.—The proposed Bill for amending the law relating to copyright in works of the fine arts, and for representing the commission of fraud in the production and sale of copies, provides that the author of every painting, drawing and photograph which shall be made or for the first time sold or disposed of, either in the British dominions or elsewhere, after the commencement of this Act, and his assigns, shall have the sole and exclusive right of copying, reproducing, and exhibiting the same, and of selling the same, and of the design thereof, by any means or in any form, for the term of the natural life of such author, and seven years after his death: provided, that when any painting or drawing shall be for the first time sold or disposed of after the passing of this Act, the person selling or disposing of the same shall also, and before the copyright thereof unless it be expressly reserved to him by agreement in writing, signed at or before the time of such sale or disposition, by the vendor or assignee of such painting or drawing.

## THE ALBERT MEMORIAL.

ON Friday last the Committee of Advice nominated by the Queen to assist her Majesty in the choice and mode of erecting a design for the proposed national memorial, held a meeting in the Council-room of the Fine Arts Commission at the Palace of Westminster.

The brief notice of their preliminary meeting, which appeared in the BUILDING NEWS, has been read in a number of other publications, and it stands to the Committee by the owners and lessees of granite quarries in various parts of the country, relative to their respective capacities to yield a month of adequate grandeur for the proposed memorial. A perusal of these tends to dispel the notion, so much and so previously current, that the country is so poor for a single stone of the requisite dimensions in this country would be attended with incalculable difficulty. The Ross of Mull Granite Company state that they can supply a month of red granite larger than any known column in existence. The object in front of the Winter Palace at St. Petersburg is said to be the largest one in Europe, measuring 10 feet. They state that they can exceed that by at least 7 feet in length, and with a corresponding excess in diameter. This stone, said to have been hitherto unnoticed, is reported by their manager, Mr. Marshall, to have been discovered in the Tormore locality, what is still so remarkable, to be already quarried on three sides. It is described, moreover, as lying just at the surface of the ground, with a fine open field in front on which it could be rolled out and "scabbled." It has an even surface, is quite detached at top and bottom, is perfectly sound, and of a good red colour. It is upwards of 100 feet in length, and will average about 12 feet in diameter. Besides this letter, there is also one to the effect that in the granitic formation between Penryn and Helston monoliths can be shown at this moment of several thousand cubic feet, perfectly sound, and without a single defect. These are but two examples among many others of the information which has been elicited on the subject.

The Committee was chiefly occupied on Friday in the consideration of the various proposals which the various quarries had submitted, and in the selection of the desired dimensions, that of transporting it to its ultimate destination, and finally of rearing it, would be attended. Assuming, for which there is reason, such a stone at a rough calculation to weigh some 600 tons, a ton being a horse load, a fair idea may be formed of the prodigious labour and risk of conveying it to the metropolis by sea, and still greater by land. Again, suppose it to have been brought up the Thames as far as Chelsea, the question of moving it through, in some cases, narrow and tortuous streets would require a practical solution. These, of course, are considerations for the exercise of engineering skill, and are only now alluded to as confronting the proposed undertaking from the commencement.

Among others, Sir Rodericus Murellian is rendering the Committee valuable assistance in the various quarters where a month of the requisite proportions might possibly be found. The Duke of Argyll, who has granite quarries on his estates unleased, is understood to have made a generous proposal in the event of their capacity being proved to yield a stone suitable for the proposed national monument.

## THE THAMES EMBANKMENT.

NUMEROUSLY signed memorial and protest of owners and occupiers of wharves and other property on the Surrey side of the Thames has been presented to the Commissioners, setting forth that, between Lambeth Palace and Southwark-bridge, there are eighty wharves, in separate occupations, carrying on a variety of extensive trades, besides factories, mills, granaries, and buildings of various kinds, built directly from the water-side, and forming a continuous front, and for all of which the free use of the river above is essential. While expressing their unwillingness to offer any opposition to public improvements and relieving their minds from the floodings of the river, the memorialists consider that their entire trade would be seriously damaged if any material impediment should be created in the river traffic by the interruption of the landing and loading of goods. They consider that any of the plans for an embanked roadway that have been laid before the public would materially impede such traffic, and that the present flooding of the river periodically may be prevented by raising the banks of the river to be raised and the wharf walls to be altered.

## CHURCH BUILDING.

**Oxford.—Dunster Church.**—This parish church has been restored, the whole expense—£2,000—having been borne by the Rev. W. Daubwood. The church is in the early English style, and nearly the whole of the body and chancel have been rebuilt. The arcade has been restored, retaining the old pillars; a portion of the old screen, separating the chancel from the chantry, has also been retained. The roof and seats are new. The singing gallery, formerly under the west entrance, has been pulled down, and a space of about five feet additional width has been obtained at the north side of the church. The pulpit, altar rails, &c., are new. An old piscina at the east end, formerly imbedded in the wall, has been brought to light. Two of the windows at the west end have been restored. Messrs. Clayton and Bell supplying the stained glass. At the entrance to the chancel on either side are busts of her Majesty and the Bishop.

**Manchester.—New Church at Antrobus.**—This new church, in the style of Patriarch. The intended building will be 90 feet long, 50 feet wide, and 38 feet high. Its estimated cost amounts to £1,000, and 800 adults and 300 children will be provided with accommodation. The building is being carried out by Messrs. W. Longman and Co., iron church manufacturers, the clerk of the works being Mr. Bryant, of that firm. The style is to be Gothic, and the building will comprise two aisles, nave, chancel, organ chamber, and gallery for children. The walls and roof are to be of corrugated iron and galvanised iron. The inside of the nave is to be cased with wood, canvassed and papered. The space between will be left unroofed, for the purposes of ventilation, &c. The benches are to be of fir, stained and varnished. There will be an octagon pulpit of the same material, and a reading-desk to correspond. The entrances will be at the west end. A bell-turret will surmount the western gable.

BENSON'S WATCHES AND CLOCKS.—Perfection of mechanism.—*Morning Post.* Gold watches, 5 to 10 guineas; silver watches, 2 to 5 guineas. Benson's new Illustrated Pamphlet, describing the various watches and clocks, and the manner of repairing them, in any part of the world to select with the greatest certainty the watch best adapted to suit his free and sale by mail, and by order of the Post Office.

J. W. BENSON, 30 and 34, Ludgate-hill, and 47, Cornhill, London, E.C. Established 1749.



## OBELISKS.\*

WE continue our account of the principal obelisks in the world. Two obelisks of red granite, without inscriptions, 47 and 48 feet high respectively, formerly stood at the entrance of the mausoleum of Augustus. They were brought to Rome by Claudius in the fifth year of the Christian era. Sixtus V., with the aid of Fontana, placed the larger one before the Church of Santa Maria Maggiore. The other, two hundred years later, was erected by Pius VI. in front of the Papal palace on the Quirinal. The base of this latter is more ornamented than any of the others, and may give our artists an idea of the effect of large blocks of sculpture at the foot of an obelisk. The famous colossal equestrian groups style, Castor and Pollux, which give the name of Monte Cavallo to the square in which they stand, are on either side of the base of the obelisk, but we are afraid that the spectator thinks little of the obelisk as he looks upon the brilliant action which the Greek sculptors have infused into their groups. There is a want of harmony in the different features of the whole group, and it could scarcely well be otherwise when we remember that one portion was fashioned and rounded by the most artistic nation of ancient and modern times, that the other was simply squared, hundreds of years before, upon another continent, and that there was nothing but the Roman art of the last century to bind them together.

The obelisk in the centre of the Piazza Navona, is, perhaps, the most picturesque treat to all Rome. Little is known of the certainty of the obelisk; it is even doubted whether it be an Egyptian work. It is of red granite, and was found, broken into four or five pieces, in the Circus of Romulus, near the Appian Way. Its height is 54 feet 3 inches, but, with its base, it is within a foot of 100 feet. It was erected 300 years ago by Innocent X. It is—rather the pedestal of the obelisk—stands upon a huge mass of rock-work, 31 feet high, in the centre of a fountain. The rock has an opening through it, and statues by Bernini are perched upon it. The water which supplies the fountain issues from the rock. The pedestal is somewhat wider than the obelisk, and has a small cornice on the top; a broad belt of metal projects 2 or 3 inches from the top of the pedestal. The obelisk itself is casted in metal-work. The pyramidal substructure of this obelisk, notwithstanding the coarse treatment of the sculpture, gives the whole group a gorgeous effect. The squared obelisk and the smoothed sculpture are linked together by the rough rock-work, and the contrast of light upon the uneven surface of the stone upon the sparkling water, and the rough figures, make us almost forget that Bernini had anything to do with the work.

A pair of obelisks, 17 feet high, were, in 1665, found in the gardens of the Dominican convent, behind the Church of St. Maria sopra Minerva. These are supposed to have formerly stood at the entrance of the temple of Isis and Serapis in the city. Bernini, with his usual taste, placed one of them on the back of a marble elephant sculptured by Ercole Ferrata. It stands now, a sad spectacle, in the centre of the piazza before the church above mentioned.

Clement XI., forty-five years later, placed the companion obelisk as a central feature in the middle of the fountain, which stands before the Pantheon.

The obelisk which formerly stood in the Circus of Sallust now crowns the lofty summit of the Pincian Hill, in front of the Church of the Sta. Trinità del Monti. Including its base and ornaments it is 99 feet 11 inches high, but it may almost be said to have the whole flight of steps which lead from the Piazza di Spagna for its substructure.

A small obelisk, 30 feet high, was, by Pius VII., reared also on the Pincian Hill. It is covered with hieroglyphics, and was found near the Church of Sta. Croce, in Gerusalemme.

The obelisk of red granite erected by Antinori on Monte Citorio was the one which so charmed Winkelried by the beauty of its hieroglyphics. It was brought from Egypt by Augustus, and stood formerly to serve as a meridian in the Campus Martius. Its height is 71 feet 6 inches. It is surmounted by a bronze globe. Its base was formed of fragments of the Atrian column which were found near it.

There is another small obelisk in the garden of the Villa Mattei, on the Caelian Hill, but it is an insignificant specimen in a city so rich in obelisks as Rome.

There are one or two obelisks, we believe, in the Egyptian Museum at Florence, but they are of small proportions.

The magnificent obelisk, which at a cost of £80,000, Louis Philippe transported from the Temple at Luxor is well known to all visitors to Paris. It stands in the centre of the Place de la Concorde. It was brought to France by M. Lebas, the engineer, and by him fixed in its present position. A detailed account of every circumstance connected with its removal has been published under the title *Notice Historique, Descriptive et Archéologique sur l'Obélisque de Luxor*. From it we learn that, on its being taken down, a fissure was discovered, extending up it, which, from the fact of its being secured by wooden dovetailed cramps, was evidently an original flaw in the Syene granite. The name of Ramesses II., better known as the Great Serapis, was also found beneath it. The two moenoliths were both given by Mohammed Ali to the French Government, but it was, seemingly, content with the expense and luxury of one of them. Its height is 72 feet 3 inches, and its greatest width 6 feet 6 inches, thus being rather less than the general proportion of ten diameters. A pedestal was made of a piece of a fine grey granite, from the quarries of Laber, in Brittany, which weighed 240,000 pounds, nearly half the weight of the obelisk. The obelisk is covered with splendidly cut hieroglyphics. The eastern side bears a Latin inscription, re-

cording its removal; the western side, one in French, of the same purport; on the northern side are engraved gilt sections of the machinery used in Egypt for the removal of the obelisk; on the southern those employed in Paris. A model of the machinery was deposited in the Conservatoire des Arts et Métiers.

There is another obelisk in France, at Arles, erected in 1676, in the square next the town hall. It was found prostrate in the mud of the Rhone. It is a simple shaft of grey granite, and was for a long time considered to be Egyptian, but it is now believed to have been taken from a quarry in the Estérel Mountains, near Fréjus. When discovered it was broken, but the most important fragment was found, and it is now re-attached to it. It is 25 feet high and 7 feet 6 inches square, and it tapers considerably more than any found in Egypt. It rests on four lions couchant, which are at the angles on the cornice of the pedestal. A broad banding bears the whole mass. The sides of the pedestal are inscribed with hieroglyphics on Louis XIV., in whose reign it was re-erected. The top is decorated in a hideous fashion, with a globe and fleurs-de-lis surmounted by a gilt sun, which has eyes, nose, and mouth marked upon it.

In England we have four genuine Egyptian obelisks. The largest, 22 feet high, is that to which we have already alluded, which stands at the seat of Sir Banks, in Dorsetshire. It was procured by Belzoni from the island of Philæ, and bears some very interesting inscriptions. Another is at Alnwick. The two remaining ones stand on either side of the Egyptian gallery in the British Museum. They are of basalt, and covered with the most exquisite hieroglyphics. The faces and figures are chiseled with rare skill. The outlines only of the obelisk are visible, and, at one inch, the sculpture itself is rounded slightly, so that the most projecting portion is on the same surface as the main surface of the obelisk. These obelisks are about 9 feet high, and 1 foot 6 inches in diameter. They were captured by the British Army in 1801, and presented by the King to the National collection.

In an adjoining gallery we can see two obelisks from Assyria. The black one is the most important. It contains five panels of sculpture on each side, and the bands which divide, and the space below them, are covered with 1,500 lines of Cuneiform inscriptions, detailing a history for thirty-one years of the empire. Grotesque faces date this monument at twelve or thirteen centuries before Christ. It is inscribed upon it the name of Jehu, son of Khmuri, who is identified with Jehu, King of Israel. This would make it one hundred years earlier; but there can be little question, from the style of the bas-relief upon it, that it is coeval with the earliest records of the Assyrian empire. It is between 10 and 12 feet in height. A larger one near it has its sculpture more defaced, and its inscriptions are illegible. It is cut from the ordinary limestone of the country. The peculiarity of both these monuments is not only in their sculpture, but in the termination of their apices. Whilst, in Egyptian examples, the tops are finished in the form of a pyramid, the Assyrian ones are terminated by three steps or gradines, and are flat at the top.

Another peculiar obelisk—a polygonal one—said to be Egyptian, stands before the cathedral at Catania in Sicily. It is fixed on the back of a carved elephant.

In the Monumenta Danica we see an engraving of an obelisk, with a carved spire upon it, and we learn that similar ones have been found in several parts of Scandinavia. Of course they have nothing to do, except in their similarity of form, with the obelisks of Egypt.

We cannot conclude this notice without mentioning that Mr. Bell, the sculptor, who has devoted much study to the subject, has adapted an entablature both to the horizontal and vertical surface of the obelisk. As a practical illustration of his theory he has designed a memorial obelisk of the 1851 Exhibition, which will be amongst the great works which are to gladden our eyes at this year's gathering. We have not yet seen Mr. Bell's work, so can say nothing of the result of his improvements, but we believe even to be an improvement. He told his ideas very fully before a meeting of the Society of Arts two and a half years ago, and his lecture has stimulated the curiosity of many people to see the work which his reflections have given birth to. The interest taken in the subject is shown by the fact that the report of the lecture in the Society's Transactions is out of print. The resolution formed by Mr. Mayhew to have the obelisk reared to the memory of the Prince Consort will increase this interest, which we can but hope will culminate in English talent hewing from British granite a nobler obelisk than any which Syene yielded to bear the records of ancient magnificence, and then to become either melancholy wrecks on the Arabian soil, or to be dragged thence in triumphal procession behind the victorious Caesars.

**INSURING THE EXHIBITION BUILDING.**—The information which first obtained circulation as to the terms on which the Building for the International Exhibition has been insured with the Norwich Union Fire Office was not quite correct in all its details; but the following particulars, which are derived from an official source, may be relied on. Soon after the contractors, Messrs. Lucas and Brown, had commenced operations, they took out a policy in the Norwich Union for £40,000, the premium for insurances increased every month until the total stood at £175,000. On the structure being handed over to the Royal Commissioners, they opened negotiations with the Norwich Union, and on the 1st of January, 1862, they agreed to insure the building for a year for £240,000, at 10s. 6d. per cent. premium, subject to the conditions aforesaid. This rate of premium involved the payment of £2,362 10s., to which must be added the duty (3s. per cent.), £705, making the total sum paid to the office £3,067 10s. The Norwich Union has also transferred a portion of its weighty responsibilities to the Phoenix, Guardian, Atlas, Imperial, and Globe offices. —Civil Service Gazette.





## THE MODERN SUPPLY OF WATER IN ROME.\*

THREE aqueducts convey water in Rome, viz.: those of the Aqua Vergine, Aqua Felice, and Aqua Paola; the two first are exclusively derived from springs; the Aqua Paola is partly from springs and partly from the Lago Bracciano.

The unit of measurement of the Aqua Vergine is gauged by means of a horizontal tube called *fistola*, of 7.33 English inches diameter, and 10.99 English inches in length, adapted to the vertical side of a reservoir, in which water is maintained constantly at the height of 10.99 English feet above the centre of the delivering orifice.

The discharge through this orifice under these conditions is called an *oncia* or "inch," and is equivalent to a supply of 6.103 gallons per second, or 8,899 gallons per 24 hours.

For the Felice and Paola supplies the orifice is reduced to one-half, so that an "inch" of these latter corresponds with a discharge of 0.0515 gallons per second—4,449 gallons per 24 hours.

The Aqua Vergine is the same as the ancient supply under that name conducted into Rome by Agrippa, in 732. Tradition tells at the present time, as of old, that the name was derived from a peasant girl, who pointed out the source to some weary soldiers. The present position of the source corresponds exactly with that described by the ancient writers. But, on comparing the length, rate of inclination, and volume discharged of the ancient system with those of the present day, there are ample reasons for supposing that the ancient aqueduct having been destroyed, the modern one was not sufficiently studied as to its rate of inclination, &c., so as to obtain an abundant supply.

The canal of the Vergine is about 52.496 feet in length, and it arrives in Rome at a height 73.49 feet above the sea; the rate of inclination is only about 1 in 10,000. The section of the aqueduct is 3.94 feet wide, and the quantity of water furnished 14,526,600 gallons per day. The Vergine water arrives at Rome, passing under the Villa Medici, occupied by the Academy of France, and is discharged into the "Spanish Square," where it supplies a fountain. From the latter a special conduit leads water for the Trevi fountain. Deducting the latter as waste water, the useful supply is 1,143 inches, or 10,212,300 gallons per day.

The Aqua Felice supply dates from 1590. Its length is about 108,273 feet, its height on arrival at Rome about 180 feet; inclination, 1 in 4,000; width of culvert, 2.75 feet. It comes into the city on the ancient arcades of the Marcian Aqueduct, and is distributed by means of water-towers called "Moses's Fountains." The principal branch main is laid on to the Pontifical residence. It furnishes 1,169 inches, or 5,201,623 gallons.

Pope Paul V. (1605 to 1621) caused water to be brought into Rome from new sources, to be mingled therewith the waters of the Lago Bracciano. The Paola canal is about 170,613 English feet in length; its height above the sea on arrival in Rome, 249 feet; rate of inclination, about 1 in 610; width of culvert, 3.12 feet, delivering 19,800,000 gallons per diem. This supply enters Rome on two points—one near the Vatican, for the service of that palace, the other at the summit of the Transtevere, where one portion supplies the Paulina fountain, the rest working a set of four mills occupying one side of the principal street of Transtevere. The volume of water supplied by the Paola is 1,816 ounces, or 8,080,751 gallons. These three aqueducts furnish at present 39,618,000 gallons for a population of 170,000 inhabitants, but the actual quantity of water delivered for public and private uses is only 33,494,574 gallons—about the same amount as the town of Paris takes from the Canal d'Orléans.

As to the quality of the waters, the Vergine is excellent. The Felice is impregnated with carbonate of lime, and forms deposits, causing obstructions in the smaller pipes. The Paola does not contain salts in solution, but, like all water derived from lakes, is subject to solar influence, and rendered impure by mud and weeds.

M. Oudry has given a tabular analysis of the different waters; it is the only one he could find in the archives, and they date back some thirty years.

The distribution is thus arranged:—The Vergine supplies the lower portions of Rome; the Felice serves the elevated portions of the left bank of the Tiber, and the Paola is carried to the higher grounds of the right bank (Transtevere).

The public supply of the Vergine feeds thirteen fountains of a monumental character, and thirty-seven small fountains. The Felice supplies twenty-seven large fountains, and the Paola feeds ten. The flow of water is continuous, both in the smaller and in the more important fountains; among the latter we may notice the Trevi, Sixtine, and Paulina fountains.

For private use pipes are laid on, as anciently, from water towers. The diameter of the tubes is regulated according to the value of the concession; the surcharge on the centre of the orifice is constant. Concessions are made by means of a wire, made of a tube 10.99 inches long, fitted horizontally to a vertical tube, in which the water is maintained at a uniform height of 10.99 inches above the centre of the orifice. To facilitate the placing of these tubes, at certain distances slabs of white marble are inserted into the facade of the houses indicating the name of the water supply, and the height to which it will rise. These concessions of water are made for perpetuity at a rate of about £150 per inch, furnishing a continual supply to a fountain in the courtyard. At present the municipal council only disposes of a single inch to each subscriber or concessionist. The different inhabitants of lodging-houses draw water from the central fountain by means of a wire, made of rope, which conducts a bucket from the higher stories to the fountain and back again by means of a rope and pulley fixed to the upper part of the window in some buildings water is raised by a wheel worked by the sewers. Some of the well water in Rome is of excellent quality.

D.



CONSOLE AT VERONA.

## CONSOLE AT VERONA.

SAN MICHELE has left many fine buildings in his native city of Verona, but none which better attests his genius than the beautiful Palazzo Bevilacqua. Like nearly all his works, it has an arched rusticated basement, upon which a Corinthian order rises, pierced with his favourite arched windows, the whole being crowned by an entablature having a richly carved frieze. The front is divided into seven intercolumniations, three large and four smaller ones, but on the ground floor all are pierced by similar sized openings. The larger intercolumniations have, however, an additional enclosing arch which rests on impost. Each of the windows has a bold fretted sill borne by two of the consoles, shown in our engraving. They are splendidly carved. Equally bold and fine are the tracings on the frieze, which support the widely-projecting cornice with a continuous balustrade upon it. The larger intercolumniations in the upper order are each filled by a single arch resting on impost, and having a carved keystone and figures in the spandrel. The smaller intercolumniations are filled by a smaller arch with a segmental pediment over it, but as this does not reach to the underside of the entablature, an oblong window is introduced over it, similar to that seen in the same architect's Palazzo Canossa.

## DESIGNS FOR MANUFACTURES IN THE INTERNATIONAL EXHIBITION.

The Committee upon Art Designs for Manufactures have determined to take immediate steps to secure the proper representation of the works of the designers. They would be glad if proprietors of designs by Gibbs, Kent, Talman, Chippendale, Chambers, J. Wyatt, Adams, Bacon, Soane, Gandy, Jeffery, Wyatt, Flaxman, Stothard, Holland, Bridgman, Pitt (sculptor), Tatham, B. Wyatt, Pugin, Barry, &c., would offer the loan of them for exhibition during the time the International Exhibition is open.

\* See page 147, ante.



ST. STEPHEN'S CHURCH, SPITALFIELDS.—MR. E. CHRISTIAN, ARCHITECT.











say it would be discredit to one or other of them if their union was dangerous to either, and he must say he placed more faith in both parties than to apprehend that the Society would be split by the union, and he did most earnestly hope, and almost inclined to expect that, instead of having much to fear, they might have everything to congratulate themselves upon. But to effect that they must come to a thorough understanding of the grounds of their mutual differences of Science and Art, and all special favoritism thrown aside, both working hand in hand in carrying out the great object in view. If the Department of Science and Art so thoroughly did their business, they could add a single specimen to the Architectural Museum, or do a single thing without their interfering with the rules and red-tape of their Department, of which their worst fears would be realised; and he did not believe, in that case, that the Department of Science and Art would do the slightest violence to the Society, which they would prevent the Architectural Museum from doing. But if each worked harmoniously with the other, as he hoped would be the case, the result would not be so.

A vote of thanks to the Chairman was then carried by acclamation. The CHAIRMAN, in returning thanks, remarked that, whatever arrangements the directors of the Architectural Museum might make with the Department of Science and Art, they would endeavour to keep their own—(Hear, hear).

The meeting then broke up.

#### ARCHITECTS' BENEVOLENT SOCIETY.

ON Tuesday evening the annual general meeting of the Architects' Benevolent Society, was held at the rooms of the Royal Institute of Architects, Conduit-street, Regent-street; the President, SYDNEY SMITH, Esq., B.A., was in the chair. Amongst the guests present were Messrs. Charles Mayhew, Richard Carter, J. H. Good, C. C. Nelson, Horace Jones, Sancton Wood, Henry Garling, David McNabb, Edwin Nash, Benjamin Ferrey, Robert Kerr, Wyatt Papworth, J. W. Billings, Rodolfo, George Muir, &c.

Mr. J. T. McNabb, Esq., of the Institution, read the advertisement convening the meeting, and also the minutes of proceedings at the last meeting, which were found correct, and confirmed.

Mr. TURNER, Esq., then read the following report from the Council, as to the proceedings of the Society during the past year:—

On entering the twelfth year of the existence of this Society, the Council have much satisfaction in being able to report their congratulations on its continued and steady progress and on its still increasing stability. The balance sheet shows that the gross receipts for the year, since our last anniversary meeting, have amounted to £434 5s. 8d. The number of cases considered and relieved during the past year, and up to the present time, has been 14. The amount distributed in relief up to the end of the financial year has been £171 6s. and a further sum of £50 up to the present time, making a total of £121 6s. The sums which have been found worthy of relief have been paid in the form of gratuities which were left to the discretion of the Society. They are palpable proofs of the aid and amount of distress to which our profession is liable, and some, at least, of the cases are such as could never have been hoped to have participated in the funds of other benevolent societies like nature which exist. All the cases relieved have been truly deserving, but two are of a nature to specially justify more particular notice. One gentleman who has been obliged to spend so much of his life in suffering a remarkable instance of the inequality and caprice of fortune. After a life of unswerving industry and of unblemished integrity, after, indeed, a most successful career, he has been suddenly stricken down by a disease which enabled him to bring up a very numerous and expensive family, and to live in the enjoyment of many social comforts—he is now, at a very advanced period of his life, almost dependent on the kindly assistance of the Society, and he is in a position of distress and hapless circumstance. A lady has been compelled to renounce her husband's circumstances, who is the widow of one of the most promising medieval architects of the nineteenth century, and, before he died, she was in a position of wealth and respect. She would have been the natural and legitimate result of so late a professional life, in appealing to the profession generally to join in and to assist us in the good work, we feel that we are appealing to the very best sympathies of our name; and we trust that we shall not call in vain upon our brethren throughout the country to increase the funds of the Society, and so, in the most effective manner, to extend the Society's means of doing good.

Mr. MOCATTA moved the adoption of the report. The Institution had been established about twelve years, and it was satisfactory to find that it was still flourishing.

Mr. GARLING seconded the motion, which was agreed to.

Mr. TURNER then read the financial statement, which was as follows:—

1861.	Receipts.	1861.	Expenditure.
Balance at Bank, Dec. 31, 1860, of Society's funds	£ 1 7	Advertisements	10 18 4
Donations	1 1 0	Stationary and printing	11 7
		City and country postage	1 0
		Writing, &c.	1 0
		Transfer of funds	1 0
Amount of subscription, 1860	2 2 0	Travelling	2 2 0
1861	2 2 0	Messenger at Institution, and 1861	2 2 0
1862	2 2 0	Bankers' stamps for cheques	0 8 0
			41 18 4
Donations made in the year 1861	40 15 2	Collectors' commissions	11 14 8
Deficient on £1,000 lne. 31st to April 1, 1861	14 15 3	Cash on deposit at Bankers	121 6 0
Amount returned by Special Committees	0 18 1	Of Society's funds	95 7 11
		Invested	6 6 0
			99 13 11
	£434 5 8		£434 5 8

We, the undersigned have, this 26th day of January, 1862, audited the above account, and find it to be correct.

JOHN NORRIS, J. WYATT PAPWORTH, Auditors.

The amount in the bankers' hands being £109 13s. 11d.—J. V. N.

Mr. BILLINGS moved the adoption of the statement of accounts.

Professor KERR seconded the motion.—Agreed to.

The CHAIRMAN announced that the following gentlemen retired from the office by rotation, viz., Messrs. Benjamin Ferrey, Horace Jones, George Muir, Charles Mayhew, and Sancton Wood.

It was then moved, seconded, and agreed to, that the President, the Vice-President, and the remaining members of the Council, together with the other officers, be elected for the ensuing year. Mr. GARLING moved that Messrs. E. C. Hakewill, T. Hayter Lewis, C. C. Nelson, Richard Tress, and R. Parris be elected members of the Council for the ensuing year, in room of those who retired.

Mr. HARTON seconded the motion.—Carried.

Mr. FERRY moved the appointment of the following gentlemen as auditors for the ensuing year.—Messrs. G. B. Williams and James Wadmore.

The motion was seconded, and agreed to.

Mr. WYATT PAPWORTH moved that the best thanks of the Society be given to the President and Council for their attention to its interests during the past year.

The CHAIRMAN seconded the motion, which was carried by acclamation.

The CHAIRMAN returned thanks.

Votes of thanks for their services during the past year were then passed to Mr. William Tite, M.P., the Treasurer; to Messrs. John Norton and Wyatt Papworth, Esq., the Secretary; to Mr. John Tress, Esq., the Vice-President.

Mr. TURNER announced the following donations:—Mr. J. H. Hakewill, £5 5s.; Mr. Richard Tress, £5 5s.; Mr. R. Parris, £5 5s.; Mr. E. C. Hakewill, £5 5s.; Mr. George Muir, £5 5s.; and Mr. Digby Wyatt, £5 5s.

After a vote of thanks to the Chairman, the meeting separated.

#### NOTES FROM THE PROVINCES.

**Chatham.—Soldiers' Institute.**—The Soldiers' Institute at Chatham is now finished. The principal entrance faces the dockyard. In the entrance-lobby is a tablet, bearing the following inscription:—"The Soldiers' Institute, erected A.D. 1861, by the aid of the regiments of the Royal West Kent, and the 1st and 2nd Victoria. By public subscription and Government aid, under the auspices of His Royal Highness the Duke of Cambridge, Commander-in-Chief, the Right Honourable Sidney Lord Herbert, Secretary of State for War, this structure has been erected for the benefit of the British Soldier." On the ground floor are two smoking-rooms, which will be furnished, and supplied with the daily and weekly newspapers, periodicals, as well as with such amusements as draughts and chess. Between these rooms is a bar, where the men are to be supplied with refreshments at cost price. The upper story is reached by stone staircases, one at the front and another at the rear of the building. This floor consists of a lecture-room and library. The tables with which the lecture-room is furnished are constructed so as to be capable of being joined together to form a stage, if required, for concerts or other performances. The library is separated from the lecture-room by folding-doors, so that if it should at any time be required for balls or other purposes, the whole of the upper story of the building can be made into one room, 90 ft. long and 50 ft. wide. There will be 500 volumes of books, and upwards of 4,000 volumes, and additions are constantly being made by the purchase of new works and the binding of magazines and other periodicals. There is also a room provided for the use of the men of the American bowling club. The building has been enclosed, so as to exclude all but subscribers to the Institute, and upon the ground thus enclosed it is said that the Government intend building a gymnasium for the use of the members. There will also be provided for the amusement of the men of the American bowling club, a billiard room, a billiard court, and a racket court. The estimate for carrying out the whole undertaking is £5,000, and towards this sum Government granted £2,000, and £3,000 more has now been raised by private subscriptions, and about £1,000 is still wanted.

**Hastings.**—A new pier is to be constructed at Hastings, opposite the present fish market and beaching ground. It will be formed of iron screw piles, with stone filling in up to high-water mark, commencing from the site of the Old Fort and extending to the eastward, and running 1,050 feet in a southerly direction, then curving eastward, 1,200 feet. There will also be a similar pier or breakwater, 1,300 feet east of the other from the "Rock-a-Nore," 1,650 feet in a line nearly parallel to the western pier. These works will enclose a harbour area in the present time of low water, and secure an depth of nine feet at low water, and from 10 to 30 feet at high water, with an entrance at the south-east corner of 300 feet wide.

#### LIVERPOOL ARCHITECTURAL AND ARCHÆOLOGICAL SOCIETY.

THE members of this Society held the eleventh meeting of the session at the Royal Institution, Mr. GOODALL presiding.

Several donations of books, &c., were announced by the Secretary. Mr. E. A. HUFFER exhibited two drawings, one of Salisbury Cathedral, and the other a pencil sketch of Chulivall Hall.

Mr. ISAAC showed an antique paper on German Hermsdorf of the date of 1651; it contained numerous illustrative engravings of the interior of a church. The paper, for the evening, "Hints on Design in Architecture," was read by Mr. E. A. HUFFER. We may return to it hereafter.

**PROTECTION FROM NOXIOUS GAS.**—Some experiments were made last Thursday evening at works belonging to Messrs. Brown, Lennox, and Co., Millwall, Poplar, for the purpose of testing Mr. Bradbrook's smoke and noxious vapour apparatus. In an iron fireproof room a large charcoal fire was made, which was kept burning at one time with paraffin, and at another time with oil, and wet straw, when a dense and suffocating smoke was produced. Six or seven persons, with the respirator on their mouths, entered the room. They remained in it for a period of 15 minutes. In addition to the above ingredients, a large quantity of copper was also put upon the furnace, and the result was that the whole of the persons in the room were enabled to breathe without the least difficulty, stating that the only inconvenience they experienced arose from the excessive heat. The Royal Society for the Protection of Life from Fire were so satisfied with the results of the experiments that they ordered a number of the respirators for the use of the conductors. The apparatus is exceedingly light, and it is said that any one wearing it can speak freely without the least danger of inhaling either heated smoke or noxious vapour. Evidently, if the experiments are carried out, there is a wide field for its application if workmen can only be prevailed on to use it.







## CONCENTRATION OF THE LAW COURTS.

**IMPRUDENT** as it may be to predicate what erratic course will be taken in the House of Peers under the obstructive influence of ex-Lord Chancellors—great lawyers en disponibilité—we venture to anticipate a complete and proximate triumph for the measures which the Hon. Mr. Cowper introduced to the House of Commons last Friday night. For the wisdom and urgency of concentrating the Courts of Law and their offices in one locality become more patent day by day, and the question has in consequence been narrowed to two issues, which admit of easy debate and early settlement.

They are, the application of money at the disposal of the Court of Chancery, which none can claim, and the choice between the centre of Lincoln's-inn-fields and the area between Carey-street, Strand, Bell-yard, and Clement's-lane, for the site of the concentrated courts.

It may be that in the House of Lords the personal convenience of the Master of the Rolls will be used as an argument against concentration and in favour of dispersion. In that case the convenience of thousands of counsel and attorneys, the economy of time and money of suitors for justice, will be held as nothing in comparison to the convenience of Sir John Romilly and of some half-dozen of his officers. The Master of the Rolls is also the Keeper of the Records. He combines with the administration of justice the custody of public documents. Let us endeavour to explain his position to the better understanding of the motives for his advocacy of dispersion, and, so far as his court is concerned, of its seclusion and separation from other courts.

Independently of his judicial position, within the last few years, a large addition to his record business. To his care are committed, besides the Rolls—properly so called—the records of the State Paper Office, and of various departments of Government, such as the Admiralty, the Audit Commissioners, the War Office, &c. Moreover, Sir John Romilly has undertaken the care and superintendence of the publication of chronicles and calendars—a work of the highest historical and national importance, which has given him well-founded claims upon the gratitude of the public—more particularly of that section which is interested in historical and literary studies. The duties of Sir John Romilly as the Keeper of the Records are not very onerous, though they may be felt as burdensome when added to his judicial duties. He says they take an hour a day, or six hours a week; that a great portion of it is done by two or three words of direction; a letter has to be opened and answered in conformity with two or three words of direction; in various other cases his signature is all that is required: and that a great deal is merely formal, with a little addition of direction. At present the Record Office and Rolls Court are in the same building. By going down to his court a quarter of an hour or twenty minutes before it meets, by taking ten minutes from his luncheon time, remaining half an hour after the court is up, and employing the odd half-hours when he has to wait for counsel, the Master of the Rolls gets through a great amount of record business, assisted chiefly by the facility he has of sending for his subordinates, who are in different parts of the building. Were his court to be concentrated with other courts in a Palace of Justice, as proposed, he could not transact his record business in these odd bits of time, but would be obliged to devote to it a considerable portion of his vacation. This would be a very sad thing to do; and, however great might be the saving of time and money to the profession and to thousands of suitors by including the Rolls Court in the concentration scheme, no one desires it should be done at the expense of the vacation amusements of Sir John Romilly. Rather perish the project, let justice be delayed and rendered unnecessarily costly to generations of suitors, before the Master of the Rolls should be compelled to curtail

his vacation rambles a day. Are not individual enjoyments to be preferred to the satisfaction of an empire's requirements?

But may not the problem be solved to the delight of all parties, by separating the office of Master of the Rolls from that of Keeper of the Records? From Sir John Romilly's candid confession it would appear that the separation of the two offices may be easily effected. The Master of the Rolls is a judge, not always, as in the present case, possessed of literary acquirements and taste. What knowledge he has of the subject "he has usually acquired after he is made Master of the Rolls; no doubt the person he principally relies upon is the Deputy Keeper"—very much as if Nelson had commenced to study seamanship after he had obtained his pennant, or as if the Duke of Wellington had commenced to learn battalion drill after he had received his marshal's baton. The Deputy Keeper of the Rolls declared it to be absolutely necessary for the Master of the Rolls to possess a great knowledge of the history of this country and of the history of Europe generally, and that there is no special reason why the two offices should be combined. We have seen that the business of the Keeper of the Records is mere formality and routine, with, perhaps, the occasional exercise of discretion. But the keepership of the national records, every one must feel, would have been an office which Lord Macaulay would have filled, and Earl Stanhope would fill, with peculiar fitness and eminent advantage to the public. It is true that the present office is filled without cost to the public, but it may be questioned if that is wise economy.

We do not desire to hold up France as an example to copy in this respect, but there can be no harm in learning how she preserves her national records. The budget for the present year provides £7,260 for the custody of the Archives Impériales, including a Director-General, at £600 a year, with twenty-seven subordinate employés and servants, and £600 for works, fac-similes of Carolingian documents, casts of seals, purchase of portfolios, binding, and publication of calendars. Supposing the separation were effected, there need be no additional cost to the nation, except the salary—perhaps £1,000 a year—of the Lord Keeper of the National Records. At all events if it were done, there would be an end to the opposition of Sir John Romilly to any concentration of the law courts—which it would be cheap to buy off at larger prices—and he would have no cause to fear encroachments on his vacation amusements.

There remains but two grounds to be examined—the propriety of appropriating two funds, amounting to £1,400,000, at the disposal of the Court of Chancery, and the merits of the two sites proposed. With respect to the fund, as that was made the *cheval de bataille* of the obstructionists last session, we may be permitted to recapitulate the facts of the case, in order that they may be distinct and prominent to the reader's mind. There are at present two funds vested in the Chancery Acausal—General—the surplus Interest Fund of £1,390,000, and the surplus Suits' Fee Fund of £200,000—which have accrued from investments, made by order of the Court, of moneys paid into it which were the subjects of suits. It would be a repetition of what has appeared in previous numbers to explain how the fund has accumulated. All that is necessary for present purposes is to know that it is the surplus of unappropriated fees in days gone by; that "former suitors were not entitled to it; and that it does not belong to suitors at the present moment." Were the fund applied as proposed, the maximum charge that could be thrown on public taxes would be £35,000; but it by no means follows that this sum will ever have to be taken from the Exchequer, seeing that last year the Exchequer received £34,000 surplus Court fees. On the other hand, the saving that would result from the concentration scheme being carried out by capitalising the rents saved and the value of sites would be £500,000; so that the useful application of "nobody's money," instead of allowing it to be idle, like the talents of the slothful servant, will quicken and cheapen the administration of justice, relieve the national exchequer from no inconsiderable burden, and effect a great moral, social, sanitary, and architectural improvement in the metropolis.

Of the two sites proposed for the Concentrated Courts of Law, it has been sought by the *Times* to obtain a decision in favour of the centre of Lincoln's-inn-fields over Carey-street, on the ground that it will cost nothing, whereas the Carey-street site will cost some £600,000. There never was a greater misapprehension, and if we can show that Lincoln's-inn-fields, as compared with Carey-street, will cost as much, and, perhaps, more, in the long run, we are justified in claiming the verdict in favour of the latter. On this point there is no better authority than Mr. Harvey Gorn, the deputed representative of the freeholders of Lincoln's-inn-fields to offer the gardens as a site on certain conditions. Now these conditions, upon the fulfilment of which the site would be given inside the gardens, will entail an enormous outlay. For they require the construction of a thoroughfare direct from Holborn to the Strand, a continuation of Serle-street into the Strand, the formation of a great central thoroughfare running into Carey-street, and additional new streets into the Fields from Holborn and from the west. There was to be provided also a

new system of sewerage. Mr. Harvey Gem estimated before the Select Committee of last year that the Holborn and Strand thoroughfare, the continuation of Serle-street, the opening of Gate-street, and the widening of Little Queen-street, would cost £408,000, and with accessories rise to between £500,000 and £600,000. As for the cost of fulfilling the other conditions—the central thoroughfare and sewerage—that would be quite independent. It is, therefore, the same thing as if Mr. Harvey Gem and the freeholders asked upwards of half a million for 31 acres in the midst of Lincoln's-inn-fields; and they officially declared that they would not consent to Parliament occupying the site unless this compensation were made. But this is not all; the area that would be conceded in the centre of the enclosure in return for this outlay would do no more than accommodate the Courts. The law offices would have to be left scattered about as they now are, or be built on a site purchased.

Mr. Harvey Gem—then, to him we do so for the sake of convenience, he being the organ of the advocates of the site—proposed to the Select Committee that the Courts should be put in the centre of the gardens—"then you may take the sides for your future legal structures, and make it the grand centre and square of the law." The ground for the depository of wills—one acre and a half—he said, should be on one side of the square, and another whole side of the square should be occupied with legal offices, while some court accommodation should be provided in Lincoln's-inn. For this purpose it would be necessary to purchase the houses on the north, west, and south sides—in fact, to purchase the property of those gentlemen who pretend to present the nation with a site for the Courts of Justice. Thus we have, first of all, a positive outlay of £600,000—there can be no error in taking the larger sum named—to make approaches; and the prices of the three sides of the square, which may amount, for aught the public has in the shape of security to the contrary, to any unknown quantity—to another half million, while the principle of concentration, for which all this outlay is to be incurred, will be violated by having the courts within the enclosure, the offices on the sides and in the inn—a makeshift which will involve an outlay for the purchase of sites to which no one can fix a limit.

On the other hand the Strand site, as it is distinctively called, and in favour of which the late Commission reported, will cost £678,044 from first to last, and that will be in some measure reduced by the reletting of frontages, and the proceeds of sales from old building materials. There can, consequently, be no question which is the cheapest, and, considering the requirements which both sides will have to satisfy, we are quite within the mark in saying that the acceptance of the site in Lincoln's-inn-fields as a present from the freeholders will entail an outlay upon the nation of twice the cost of the Strand site. Despite the adage about not looking a gift horse in the mouth, it is very useful to do so in the present case. Indeed, Mr. Harvey Gem frankly admitted the extra cost of the presented site over the purchased site, and sought to excuse it because "we should not look merely to cheapness; we should ascertain which is the best plan for the Courts, the public, and honour of the law, and the honour and convenience of the metropolis, and then see if it cannot be carried out. I do not think the public would grudge money well laid out for those purposes." It may be that a few lawyers entertain the delusion that expensiveness conduces to the honour of the law; but the public will most certainly grudge the unnecessary expenditure of half a million of money merely to procure honour for the law.

When we come to consider the accommodation of the respective areas, it is difficult to understand how any one can for a moment entertain the proposition of enlarging Lincoln's-inn-fields, an architect in fact, that will be given is 31 acres, and we have seen, quite inadequate to the requirements of the occasion. The Strand site contains 7½ acres, or more than double that area, and will not absolutely require the construction of new approaches; it is desirable they should be made when so admirable an opportunity occurs, not so much to afford access to the Courts as to supply new channels for traffic, especially one going north and south, and the widening of the Strand by removing Holywell-street. Mr. Abrahams, who was examined before the Select Committee that last year, and whose experience as an architect in the purchase of property and erection of buildings in London extends over a period of forty years, stated that he knew of no property equal in extent which can be so cheaply purchased. It is singularly economical from the fact that it is not only quadrangular in form, but it is also nearly equilateral and of great depth taken from north to south, so that there will be only one line of goodwill with a large mass of inexpensive property to be taken. In no part of London can an area of such extent be bought without some serious impediment from existing factories or public buildings.

The advantages that would result to society, public health, and morality, and to the architectural appearance of the metropolis, came out strongly in evidence. The salutary character of the site is very bad, though less than it would be were it not mitigated by currents of fresh air brought up by the tiles. Yet "it is almost impossible to re-

main for any length of time in some parts, the stench is so dreadful. The condition of the people is terrible; the vice and wretchedness in the young, the deepitude in those of middle age, and the dreadful condition of those in premature old age, are appalling. View of the inhabitants are workpeople, in the general occupation of the town, they are costermongers, washerwomen, and sweepers—"in fact, the most extraordinary combination of the most unfortunate characters in the metropolis." During his survey Mr. Abrahams was attacked, and had a very narrow escape of being robbed near Plough-court. Shire-lane is the most infamous locality in London, and contains some of the worst houses; almost every one is more or less badly occupied. The courts and alleys which cover the site are built in contradiction of all modern legislation on the subject of buildings, since they have no through drafts. They are *sub-de-mo* of the worst possible description, and have no system of drainage. If these characters are expelled from the locality, they will go somewhere else; but, as Mr. Abrahams remarked with great truth and force, they would not be able to congregate as they do now in this neighbourhood; they would be diffused through society, and would not have the same bad effect when separated as they have when in combination. Vice reacts from one individual to another, and intensifies; the moral corruption increases proportionately to the density of the population.

With these facts before the public, it is to be hoped that the delusions which led to a preference being given to the centre of Lincoln's-inn-fields for the site of the law courts will be dispelled, and that the unanimous recommendation of the Commission, as well as of the Select Committee, will be accepted.

#### "THE END OF A FRAY FITS A DULL FIGHTER."

MR. HALL, the conductor of the *Art Journal*, has recently snatched an opportunity, and relieved his overburdened mind of its congested discontents. At the ordinary meeting to distribute the prizes of the Architectural Museum, reported in our last issue, Mr. Hall found an audience assembled, and, being primed by the letter of "an Architect," published in the current number of the *Journal*, must needs deliver a voluble, in King Canby's vein, "in the very strongest of the enemy of the Department of Science and Art, its officers, and all pertaining to it or them, were peppered with his anger. Just the full force of his denunciation was reserved for their gargantuan creation, which is now being fed with all the best things of the world. His reason for being so violent was that the "architectural journals had been silent" on the subject, and with a fresh wound in the dead Hotspur's thigh, he "looks to be either earl or duke I can assure you." We should have thought that the very fact of the Architectural Museum holding its meetings, by courtesy, at South Kensington, would have spared them such an attack within their own walls, and the meeting from such an unexpected and unbecoming exhibition. There was plenty of scope for a "fluent orator" in the business for which the audience was especially assembled. The chairman attempted to call Mr. Hall back from his wanderer flight, but to no purpose. He again broke—

"Into the woman's mood,  
Tying his ear to his own."

He rolled his heavy sentences, and would fain have had his listeners believe that Zeus spoke. The "boilers," however, did not collapse; Mr. Cole was not embarrassed; and Captain Fowke subsequently took his customary gallop without dread of any consequent mishap to the gigantic shed. "A plague on all cowards; is there no virtue extant?" said Sir John Falstaff; and Mr. Hall paraphrased the well-known exclamation in his outspoken peroration. If the use of pointed weapons constitutes a warrior, Mr. Hall should kneel, to rise again Sir Samuel. He bristled with them like the fretful porcupine. It is true his opponents were not in sight to awe him into propriety, and that he had not so disposed of them as to account for their absence. This, perhaps, his courage counts as useless as it was, under the circumstances, unwarranted. Whilst the Exhibition was being hatched, Mr. Hall might have perceived who sat brooding on the nest. It is vain to bestir himself now, when the monster is beyond his reach. The Architectural Museum was not thrust forth to make space for the ungainly creation. It has gained stature, size, and vigour at South Kensington, and, as a consequence, gratified, might reasonably have been expected from a promoter and guardian of it, in a meeting which testified to its vitality. Mr. Hereford Hope, we have no doubt, admires the building as little as Mr. Hall or we do, but he had the good taste to be silent on the subject when speaking at South Kensington.







## THE ALBERT OBELISK.

WHEN it was sought by well-meaning philanthropists to divert the large and still-flowing tide of the nation's gratitude to its Prince into innumerable petty channels, where, by wide spreading, it would have dissolved to naught, the Queen deprived even disappointment of its customary pang by the tender expression of her wish, and strengthened by her wise decision the position of those who desired to avoid making the Prince Consort's monument a socially remunerative memorial. In deciding, however, in favour of an erection of a purely monumental character, and in mentioning an obelisk as the form most likely to meet with public approval, Her Majesty made an express provision that it "should be on a scale of sufficient grandeur." The Committee then appointed by the Queen to determine the several details, have necessarily first directed their attention to the materials for the central feature of their work. That the British Islands possessed granite quarries from which monoliths might be sent equal in size to any which were ever reared was never doubted, although the absence of any standing block had somewhat obscured the fact. The Committee's investigations have now again made it manifest, whether we desire red granite or grey, we can have it, but the gigantic cost which a successful rivalry of ancient Egypt and modern Rome must of necessity entail, looms up in gigantic proportions commensurate with the work, and threatens to defeat our object. The owners of the several quarries meet the Committee with characteristic liberality, but their generous offers are repelled by the mere material losses but in trifling degree the total cost. There is no doubt that in the nineteenth century, with scientific appliances and engineering skill, we can do with marvellous facility what our painted ancestors were able to do without such assistance on Salisbury Plain, but the question arises whether it be wise to waste our powers only to excite the lowest feeling which can be excited in the minds of spectators. In the absence of capacity for making better impressions, the men of old barbarous times excited the simple wonder of the people. By an extravagant expenditure of muscle they made up for their deficiency of mind; if it should, however, be remembered that a head painted by Raphael and carved by Donatello, would be a work of art, fifty Stonehenges; that one sculptured metope from Minerva's Temple, weighed in an intellectual scale, makes even the Sphinx kick the beam. We should like the Albert Memorial to be an intellectual rather than a muscular monument—to kindle something beyond the vulgar sentiment of wonder.

In directing attention to this special feature, we emphatically renege any thought of questioning the wisdom of the Queen's decision. The stipulation with which it was accompanied, and the invitation for remarks on the subject from the Select Committee, justify our course and clear it from anything which could be objected to on any ground.

Immediately that Her Majesty settles upon an obelisk people run away with the idea that it must necessarily be monolithic. This necessity we take the liberty of questioning. It would, of course, in that case possess a certain value on account of its rarity, as all things do, from a stuffed gorilla to the Koh-i-noor, but for its intended purpose it would have no relative value at all commensurate with the cost. The expense of transporting the huge block would alone absorb more than the total amount of the subscription now raised. To guide us in this estimate we have but one example to refer to—that of the obelisk of Luxor, now in the Place de la Concorde, at Paris. Fontana's account of the expenditure connected with that in the Piazza di San Pietro, in consequence of the difference in the value of money and the improved mechanical means at our disposal, will not help us to an approximately accurate solution of the problem. The cost, then, of the French obelisk was no less than £80,000, instead of £25,000 or £20,000, as was recently stated in a newspaper. This, of course, includes transport from the banks of the Nile to the coast, from the Western Islands; but it should be remembered that no land carriage had to be provided for it. Once shipped, it was brought to the very spot where it was erected. In the present case we should certainly say a considerable portion of the sea journey, but at the same moderate calculation we could only find it within the limits of the three miles of its ultimate destination. Some portion of the difficulty in removing it from the Thames to Hyde-park may be calculated by simply conveying a pole of 100 feet in length along the intended route. Could all the corners be peeled without demolishing houses and falling to the level of 200 feet, the French obelisk of 22 feet high and weighing 100 tons, would cost. The Albert obelisk, at the most moderate computation, if, as is proposed, 100 feet high and of proportionate diameter, would not weigh a pound less than 500 tons. If the reader will but consider the effect of such a ponderous mass upon our roadways, and, moreover, upon our three or four brick rims of arches, severely injured by the weight of the stone, and the fearfully expensive nature, if not of the absolute folly of the proposed undertaking.

That our architects and engineers could accomplish the task we have no manner of doubt; but for what purpose would the great sacrifice be made? Assuredly not to honour the lamented Prince, but to emulate the absurd vanity of the Cæsars, the Popes, and the French nation.

To return for a moment to the Paris obelisk. The pedestal is a single block of granite, and weighs itself upwards of 100 tons. If the Albert obelisk is to be a monolith, a corresponding monolith will be needed for its pedestal, for if that can be built up in blocks of moderate size, it is only insisting on the monolithic character of the superstructure to make it more conspicuously apparent. The sense of durability assumed as belonging to the monolithic obelisk would be impaired by its standing upon a pedestal without that manifest attribute. If the relative proportions of the obelisk are doubled, those of their substructures must equally be so; and as we know

the exact cost of the one, we cannot go blindly to our work of raising the other.

We admit that a monolithic is theoretically more durable than a built obelisk, but as both would, in all probability—their foundations being good—stand for thousands of years, they may almost be considered of equal value. Who that looks upon the Saint John Lateran obelisk notices that it is in three pieces? Or who stays a minute longer in admiration before that in front of St. Peter's on account of its being a perfect unbroken block? By being quarried in one block, the Albert Monument might become the most gigantic of laborious curiosities, and take highest rank in that class which embraces the Chinese ball carved in a single piece of ivory, one within the other; but if its weight is so terrible that contemplated, it would still have a low character—one unworthy of the Prince who worked incessantly to elevate the people, and to instill into them better taste than such a monument would denote.

The Times compares a monolithic obelisk to a "church spire carved out of one stone, and raised in the most perfect manner." It is a fair comparison, but we could scarcely approve of an architect's practice, who, with sufficient knowledge of mechanics to construct a spire in that manner, possessed also the folly to do it. The leading journal makes this comparison in order to induce the committee for local memorials to abandon their projects and devote their funds to the London monument. We believe that no single one will respond to the appeal made to them. We might as well ask that no ordinarily constructed spires should be attached to country churches, in order that we in London might build one in an unnecessarily extraordinary fashion.

England may not be the country for memorials, but that is no reason why, when an opportunity presents itself, we should not endeavour to wipe out this reproach. A sneer at a local "statue faithfully copied from some well-known engraving" is particularly ungracious. Our sculptors, whether employed by Bath, Birmingham, or London, have all like facilities for reproducing the well-known and well-remembered head. The inscriptions in the country are not more likely to become mere "smoky" or "black" than that in London. In fact, we should think just the contrary. It is not simply an "occasional visitor" who will look upon the provincial memorials, but the inhabitants—present and to come—who will have it associated for ever with their town, marking how they did their duty to the Prince who had his duty unto them. It is better that the obelisk should be thus guided by the feeling which caused their erection, than that they should be absorbed in the wasted expense of a gigantic monolith in or near Hyde-park.

We maintain that we should proceed in this matter irrespective of what strangers may think of us; find out the right track and pursue it steadfastly; but, even on the low consideration of a visitor's opinion, he would be more forcibly impressed with the loss felt by the nation in the Prince Consort's death, if, wherever he went throughout the length and breadth of England, in every town and hamlet, some record, even although it might seem a trifling one, were to be made of his life, by an engraving, or a "drinking fountain with inscription instead of text," met his eye, told him that not only in London, but wherever the English tongue was spoken and English hearts beat, there was a common sense of grief for the Prince's death and of sympathy for our widowed Queen.

The reason given for asking our provincial committees to sacrifice their objects is that they may transfer the collected money to the London fund. We shall need, it is said, half as much as the cost of an iron-plated frigate to carry out the monolithic idea. The Times even estimates the weight of the monument at 1,000 tons. With increased dimensions of 150 feet high and of proportionate width, it is not far wrong; but, with double the weight which we had calculated upon, the folly of such an undertaking is quintupled. If any real advance in art were gained by it—if it expressed, however slightly, our gratitude to the deceased Prince, we should offer no objection. Even if it should be a "work of the people," what then? Would it compensate our provincial towns for the loss of those local memorials, which would "at least redeem them by a single object that carried them back to the past and reminded them of its greatness and its glory"? Would it be judicious to sink the money on the unseen and soon forgotten labour of transport, instead of investing it in sculptured works?

We decidedly think not. A much larger sum ought to be received for the London monument, and no doubt will eventually be obtained. The Times mentions three sources whence this additional sum may be expected—1. By the subscription of the many suburban people, who have not been bidding their time. 2. By Parliament and grant; and 3. By the provincial towns throwing their subscriptions into the general fund. The second source is, of course, if possible, to be avoided; the third will, we think, be a vain expectation; and we are afraid even the first, although long for, may be long hoped for if it is not the case of 1,000 tons' weight is pertinaciously adhered to. Much as we object to a utilitarian memorial, we would rather see the money thus expended than upon a transport ship and transport waggon.

But there is really no occasion for an appeal either to Government or the provincial committees, before we can think of something more than one of the above courses, or for the Government to dole out the money which the British nation has heretofore doled out its thanks to departed heroes and statesmen. We have only to dispense with the monolithic idea. We shall then save not only our streets, our sewers, and thousands of pounds, but great perplexity of brain. Let the monument be an obelisk, according to the Queen's and nation's maintenance, sensibly, instead of transporting it foolishly. Spend the money upon living





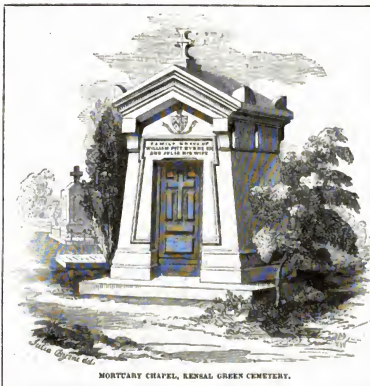
parts are easily measured off with a common rule, as it will generally be found necessary to build or alter some of the members, for it often happens that the design has a counter-appearance when enlarged; therefore, this gives you the opportunity of refuting it, and will ultimately be a saving of time and trouble in the preparation of the full-sized details.

#### MORTUARY CHAPEL, KENSAL GREEN CEMETERY.

WE give a sketch of the mortuary chapel over the family grave of the late William Pitt Byrne, M.A., and now in course of completion, in Kensal-green Cemetery, by Mr. Carey, of Great Portland-street. It is intended to answer the purpose of securing to the mourner visiting the last resting-place of departed relatives, a welcome privacy. It is built of Portland stone, and the door as well as a cruciform window at the back, is glazed with ruby glass. Within, is a white marble altar slab, and above, a fine black marble tablet, bearing the epitaph in gold letters.

The late William Pitt Byrne was so intimately and honourably connected with the press that, while passing over his moral worth and the writing attributes of his private character, we are justified in paying a slight tribute to the distinguished abilities and extensive literary and classical attainments which he employed in the public service. His father, sole proprietor and sole manager of the *Morning Post*, having been stabbed one night in the office by a political assassin, Mr. Pitt Byrne, then a Fellow-Commoner at Trinity College, Cambridge, succeeded him in the proprietorship and management of the paper, and not only maintained its political character, but successfully extended its scope. Following the course pursued by his father, he vindicated the cause of independent journalism, and rigidly adhered to his practice of steadfastly refusing all offered testimonials.

Shortly after his marriage Mr. Pitt Byrne retired from his onerous duties, but he did not relinquish his literary pursuits, and continually contributed to the periodicals of the day. Proficient in ancient languages, he was at the time of his premature decease engaged on a work of deep research and universal interest, and proposed publishing a correct and accurate translation, with notes, of all the obscure or unintelligible passages in the Old Testament, especially the Psalms. From the curious errors he had already discovered, it is to be regretted he did not survive to complete the work.



MORTUARY CHAPEL, KENSAL GREEN CEMETERY.

#### DOORWAY, CHURCH OF SAN PEDRO DE OLITE, SPAIN.

THE church of San Pedro is one of two very remarkable churches in the town of Olite, in the kingdom of Navarre, pleasantly situated on the river Cidacos, once one of the jewels of the Navarrese Crown, but now fallen into neglect and decay, and only half populated.

We illustrate this week the very fine doorway of this church, and part of the facade, the whole of which is grand and massive, as well as elaborately sculptured. The tower rises to a considerable elevation, capped by a gallery with perforated quatrefoils, and from this springs a lofty spire. The proportions of the doorway are very good, and the ornament which decorates the mouldings of the arches and capitals of the columns is remarkable, both for the delicacy and freedom of its execution and variety of design. It was evidently constructed during the eleventh and twelfth centuries. The rose window over the doorway, it will be remarked, does not quite centre with it. The broad band running beneath the window is most elaborately and quaintly carved. The church was built by one Azezzazo Elnabi, a notary of Olite, as is set forth in an inscription on the front.

#### LONDON FIRES.

THOMSON HANKEY, Esq., M.P., has sent a list of queries to the Lord Mayor, with the following note:—

My dear Lord Mayor,—I enclose a list of queries which I should probably put to any witnesses who would kindly attend on our Fire Committee on behalf of the City of London, and should be quite ready to put any others which the witnesses might desire, in order to give us such information as might be in their power as to the existing state of the laws, the efficiency, sufficiency, defect, or otherwise, for the general protection of London against losses by fire.

Our object is not to go into the question—as far, at least, as we can avoid it—as to the origin of fires, but, assuming that fire is inevitable, to inquire for the best form of organisation in any large town for the general protection of the inhabitants against such calamities, and by what means the expenses attendant thereon can most equably be defrayed.

Before we go, however, into the question of future organisation, it is necessary to obtain all the facts we can as to existing laws, and as to the existing rights, which have, to a certain extent, supplanted the existing laws. We have evidence laid before us from the Home Office that it is not the intention of the fire insurance companies to keep up the present system of fire brigades, but that the best evidence we can as to whether London can safely be left without such a fire brigade; if not, whereunder would it ought to be placed, and by what means the expense should be defrayed.

#### STATUE OF THE LATE MR. JOSEPH LOCKE, C.E.

A MEETING of gentlemen who had served on a general committee for originating a memorial to the late Mr. Joseph Locke, civil engineer and M.P., was held in the theatre of the Institution of Civil Engineers, on the 12th inst., for the purpose of considering the form of the proposed memorial.

The Chairman, Lord ALFRED PAGET, in introducing the subject, referred to his personal acquaintance with Mr. Locke, his social qualities, the general regret at his loss, and the desire to perpetuate his memory by the erection of a statue to be placed in juxtaposition with those of Stephenson and Brunel, with whom he had been associated in life in the construction of the gigantic railway undertakings of this and other countries, as an incentive to the younger members of a profession to which Great Britain owes as much of her present grandeur and prosperity. Lord Alfred mentioned the communication which had taken place between himself and the Chief Commissioner of Woods and Forests as to the site of the proposed statue, and stated his belief that notwithstanding the reply, he had little doubt but that if the application was supported by the influential gentlemen present, and assisted by the representatives of the Stephenson and Brunel memorials, it would be successful, and he promised to use every means in his power with this object.

Mr. J. J. HOPE JOHNSTONE, M.P., said that for many years he had the pleasure of the intimate friendship of Mr. Locke, and concluded a most touching address by moving a resolution in favour of the erection of a public statue to his memory. The resolution was seconded shortly by Mr. HANKEHAN, and carried unanimously.

Mr. MORPAT, M.P., alluded to Mr. Locke's remarkable zeal, talent, and energy, and the great engineering works in which he had been engaged, and moved that subscription lists be opened (limited to ten guineas) for the purpose of providing the necessary funds. This resolution was seconded by Mr. CORDESS, M.P., and carried unanimously.

Mr. G. P. BIDDEN referred to Mr. Locke as associated with Stephenson and Brunel in the early history of railways, and the natural desire, therefore, that a statue to his memory should be placed in juxtaposition with those of Stephenson to his personal and cordial friendship with Mr. Locke, he moved the appointment of a committee for giving effect to the foregoing resolutions, and that Charles Manby, Esq., be requested to act as honorary secretary. The resolution was carried.

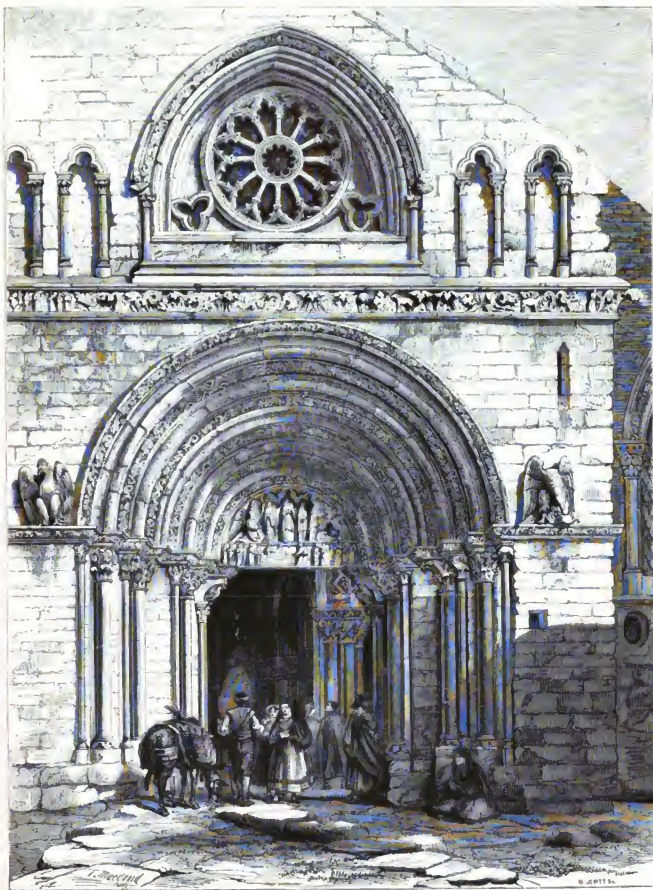
#### LINCOLN DIOCESAN ARCHITECTURAL SOCIETY.

AT the last committee meeting held at Lincoln, it was determined that the annual general meeting for the present year should be held at Market Rasen, on Thursday and Friday, the 5th and 6th days of June. The subject of the Cathedral pulpit was next discussed with some anxiety, as the cost considerably exceeds the sum that has as yet been subscribed for its execution. We have already described Mr. George Gilbert Scott's design. It consists of the pulpit and a canopy above it, interspersed with statues of prophets, &c., in carved oak, the cost of which last alone would, it is said, be £140. The treasurer, it was stated, had received a sufficient amount of subscriptions to enable the Committee to order the pulpit proper, but as the Chapter has expressed a very strong desire to possess the pulpit in its entirety, the Committee is anxious to fulfil that wish, and determined to send out circulars to the members and friends of the society in the hope that the requisite sum will be shortly raised. The whole cost of the pulpit will, we understand, be £450.

BENSON'S WATCHES AND CLOCKS.—"Perfection of mechanism."—*Morning Post*. Gold watches, £ to 100 guineas; silver watches, 25 to 50 guineas. Benson's new Illustrated Pamphlet, free for two stamps, describes every variety of watch and clock made in any part of the world to select with the greatest certainty the watch best adapted to their case. Watches sent free and safe by post on receipt of a remittance.

J. W. Benson, 25 & 27, Ludgate-hill, & 47, Cornhill, London, E.C. Established 1748.





DOORWAY OF THE CHURCH OF SAN PEDRO DE OLITE, SPAIN.



## THE LOCH KEN VIADUCT, PORTPATRICK RAILWAY.\*

This viaduct was situated on a curve of half a mile radius, and carried a single line of railway over the loch, which was so deep that the width of the waterway was increased from 355 feet to 360 feet, the depth of the water at the point of crossing being 29 feet in summer. It consisted of seven openings, three of 130 feet each in the centre, spanned by wrought-iron girders of the bow and string form; two semicircular arches of masonry, of 50 feet span, in the middle; and two openings of 30 feet each at the ends, provided with flat cast-iron girders. Owing to there being scarcely any current, it was not deemed necessary to set the piers in the line of the loch, but they were placed at right angles to the viaduct, and each pair of girders was at a slight angle to the adjacent ones.

The foundations consisted of strong gravel, except in the case of the east abutment of the main openings, where a running sand was met with, and in this instance the lower part of the foundations was laid on a bed of concrete 2 feet in thickness. The two deep water piers were each formed of two towers, 8 feet in diameter, placed 8 feet apart, and connected above the water level by semicircular arches of masonry. For each tower of the piers a cast-iron tube 8 feet in diameter, 16 inches thick, the tubes being 36 feet and 42 feet in length for the east and west piers respectively. When the masonry was brought up to the surface, the upper castings of the tubes were removed. Around the piers 4,000 cubic yards of loose rubble stones were deposited, so as to produce an artificially deeper foundation. The tubes, when placed in position, sank from 1 foot to 2 feet, by their own weight, until they reached the gravel and sand, where they remained quite firm. This formed a good test of the sufficiency of the foundation, as the weight of the tubes on their narrow edges was equal from 8 to 10 tons per square foot, while the tubes on the wide ends of the arches of the finished structure, including the moving load, was only about 6½ tons per square foot.

The method adopted in sinking the tubes was that of ordinary well sinking. Two plate-iron manholes, 24 inches in diameter, 1 foot 6 inches deep, one 18 inches in diameter at the top and 1 foot deep, and the other, which was only used for the harder portions of the excavations, 1 foot in diameter at the top and 1 foot deep. There were openings in the sides, covered with leather flaps, to prevent the material from coming when the tubes were filled. Three arms of rope ran over pulleys projected through the sides of the pans, and being connected to a long rod with a cross handle at the upper end, the screw pans were worked by four men, and when full were raised by tackle. The larger pan raised about 1 cubic foot of material each time, and the smaller one about half that quantity. By means of these means the tubes were sunk in some instances as much as 18 inches in one day, the minimum being 2 inches per day in the case of the north tube of the west pier, where large boulder stones were encountered, rendering necessary the use of a heavy pick. When the tubes were sunk to the required depth, the material deposited within them, varying from 12 feet to 18 feet in depth in each tube. On this concrete ashlar masonry was laid, the corbel course being of granite, in large blocks, for receiving the ends of the girders, which rested on wrought-iron plates, laid on thick sheets of vulcanised India rubber, to lessen the effect of vibration.

The bow-and-string girders were each 136 feet 8 inches in length, and were segmental in form, the rise being 17 feet 6 inches, so that the segment was almost vertical with a satisfactory curve for the roadway. The main members of the upper and the lower beams were identical. They consisted of a main plate, 24 inches broad and 3½ of an inch thick, and of two channel irons, each 8 inches by 4 inches in section and 1½ inch thick, placed at a distance of 8 inches apart, between and to which the struts and ties, of the same section of channel iron, were riveted. The transverse girders for carrying the roadway were 6 inches in depth at the ends, where they rested on the channel irons of the under beams, and 12 inches deep in the centre. The middle web of these girders was 1 of an inch in thickness, and there were angle irons, 3 inches by 9 inches by 1½ inch in section, at the top and the bottom of the web on each side. Every alternate girder projected 2 feet, from which T iron struts were carried up to the crossings of the diagonal bracing. The weight of the girders and roadway between the points of support was 68 tons, and of the ballast 33 tons in depth 14 tons, making a total dead load of 102 tons; and taking the rolling load at one ton per linear foot, the total load on one span would be 232 tons. The area of the upper boom was 53 inches, and of the under boom, exclusive of rivets, 24 inches. The distance between the centres of gravity of the upper and the under booms was 17-04 inches. The tensile strain on the under boom amounted to 4-04 tons per inch, and the compressive strain on the upper boom to 3-35 tons per inch. When the whole of the load was on the girders, there was no compressive strain on any of the diagonals, but there were tensile strains varying from 3-4 tons to 7-5 tons, or equal respectively to 2 cwt. and 1 ton per square inch of section.

The Author considered that the bow-and-string girder possessed advantages over the Warren or other lattice girder, with parallel top and bottom members, as in the latter case it was not possible to make the top and bottom members theoretically correct, without great labour and waste of material, and as, owing to the great variation in the strains on the diagonals, it was necessary that they should be of varying dimensions, involving in some cases even different sections of iron.

The girders were built in position on staging, and the greatest amount of deflection of any one girder from its own weight was ¼ of an inch. Subsequently, when a locomotive engine, weighing 34 tons, was placed in the centre of each span, and afterwards was run over, first at ten miles an hour, and then at twenty-five miles an hour, the deflection amounted to from ½ to 1 of an inch in each girder, there being no perceptible difference in either case. Finally, when four engines were coupled together, so as to give a load equal to 1 ton per linear foot, the deflection only amounted to from 1 to 1½ of an inch.

The total cost of the viaduct amounted to about £13,000.

Mr. Tite has explained that the motto placed on the pedestal of the centre figure in the pediment of the Exchange was not suggested by the late Prince Albert, as generally supposed, but by Dean Milman; but Prince Albert suggested that the artwork should be so planned as to puzzle the sculptor and architect, which may be very appropriately filled with a motto.

## ARCHITECTURAL ASSOCIATION.

A ordinary general meeting of this body was held on the morning, Conduitt Street, Regent-street, on Friday; A. W. BLOKFIELD, Esq., M.A., Presiding.

Mr. J. C. ADAMS, Hon. Sec., read the minutes of proceedings of the last meeting, which were approved and confirmed.

**Nomination.**—The following gentleman was nominated for membership:—Mr. Francis Ellis (proposed by Mr. Taylor; seconded by Mr. Waller.)

**The Modelling Class.**—Mr. BLASHILL drew attention to the importance of modelling joining, and the necessity of the class, at present, owing to which he himself and many other members had found it to be of great advantage. A little practice of working in the round was very beneficial, and gave gentlemen the capacity of drawing with much more facility and effect. He understood that the class was getting on very well, some coming from the Architectural Museum if the numbers attending the modelling class was increased, and he hoped that such would be the case.

The CHAIRMAN agreed with Mr. Blashill. For the last two or three weeks unavoidable causes had kept him away from the modelling class, but he intended in future to attend regularly. Having had casts offered to him, and the whole subject having occupied the attention of the senior members of the profession, he thought they ought to have a good modelling class, and hoped to see an improvement in it before long.

Mr. R. O. HARRIS thought there was one thing that influenced the modelling class very much, and that was the time of meeting (six o'clock), which, on the class of design evening, rendered the sitting very long. Six o'clock was a very inconvenient hour for many gentlemen, some coming from the Architectural Museum, the cause of the number attending the class not being greater; and he thought it would be desirable to make arrangements for meeting on two evenings of the week instead of Fridays only.

The CHAIRMAN.—There might be some difficulty in arranging that with Mr. Ross (teacher of the modelling class).

Mr. BLASHILL.—At present we have the rooms only for one night in the week.

The CHAIRMAN.—Certainly, to have two nights a week would be a better arrangement.

Mr. HARRIS thought it would be impossible to have a full modelling class on the class of design evenings or the ordinary general meeting evenings.

Mr. BLASHILL.—At present the class of design night was a long night.

The CHAIRMAN.—I am sure that Mr. Ross would be better consulted with the subject, which they could not discuss at that time.

The subject then dropped.

**Joinery.**—Mr. J. A. BUNKER then delivered some observations on the subject of joinery, his remarks being illustrated by models of doors, floors, mashes, casements, skirting, &c. Mr. Bunker said that the subject of joinery was one that was to be that part of the science of architecture which consisted in framing or joining together wood for the external and internal finishings of houses, such as the linings of rooms and roof timbers, the putting together of doors, windows, stairs, and the like. It required, therefore, more accurate and nicer workmanship than carpentry, being of a decorative nature and near the eye. It was not his intention to describe all the materials in general use in joinery, nor the tools employed, but to point out the reason for the use of a number of tools, and to bring about with him. He then showed a piece of wood, and said that they knew it was white deal by the knots, but the grain of it was very much like yellow deal; and also a piece of yellow deal, the chief difference being the dark-coloured knots. The knots were more often coloured, so that they were hardly able to tell the difference between white and yellow. He next showed specimens of pitch pine, which had a very large amount of turpentine; a peak, which was pretty in colour and grain, and was also very heavy; and a piece of walnut. Those were some of the materials, but there were many others used by the joiner. As for the tools, they ought to look round a joiner's bench and ask the joiner what the various tools found there were used for. Perhaps the simplest work a joiner had to do was to prepare floor boards. The best kind of floor was that which showed no nail holes. He then proceeded to describe the several descriptions of doors and skirtings. He reminded his audience that in making drawings for joiners' work they should ever remember that wood would shrink. Having had the floors laid and the skirting fixed, they should then think of doors. In order that the workman of the joiner should get his rod and set out a section, longitudinal and transverse, of the door the joiner had to frame. The rod was sent to the chalk-line foreman, whose duty it was to cut every thing for doors with the least amount of waste. The lecturer then exhibited a model of a four-panel square door, and pointed out the various parts, such as mortises, tenonings, plunging, glazing up, cleaning off, &c. He next proceeded to explain the mode of fitting and hanging doors, referring to various kinds of doors, both ancient and modern. He next spoke of mashes, which were various in their description, and generally got their name from the section of the bar. The simplest kind of mash was one fixed into the linings, which might be double or single, as might be wished. Mr. Bunker next proceeded to explain the mode of hanging doors, the operation of the pulley, and the preparation of skirtings. He then described the construction of stairs, plain and scarted dovetailing, door frames, and other matters connected with the subject of his lecture, and resumed his seat amidst applause.

The CHAIRMAN said he was sure they were all very much indebted to Mr. Bunker for his lecture, and he hoped they would draw forth some discussion. He certainly thought it was too often the case to describe things in specifications they did not understand, and it would be much better very often if they put more into their drawings and less into their specifications. It was a great deal of conversation in model making, and, by putting more in their drawings they should be able to hit upon new forms of joinery which would be of advantage.

Mr. THOMAS M. RICHMAN thought they must all join with Mr. Parvise in thanking Mr. Bunker for his lecture, and not only for the specimens which were of much more importance than any quantity of reading or drawing. He proceeded to say that the question of veneer stood much in the same way as the question of gliding. The value of a lot of mahogany fit for being cut up into veneer was about £1,000 and a lot of mahogany fit for being cut up into the great use of machinery at the present day in working the elaborate portions of

\* Based upon the Institution of Civil Engineers, on the 4th instance, by Mr. E. L. J. BLYTH, M. Inst. C.E.

joinery, nor to various methods of flooring in use, such as laying two thicknesses of boards, laying felt on boards, &c. The lecturer spoke warmly of floors of ash dowels, but he (Mr. Hickman) thought such floors had objections, though dowelling had this great advantage, that it prevented winding of the boards, and the great difficulty of treating oak, especially English oak, was that it did not grow dreadfully. In the case of the end of the grain, according to the Gothic principle the beauty of a wood consisted in showing the end of the grain; but at the same time the Classic principle was that there was a greater beauty in the side way of the grain than in the end way. The two arguments would not meet, he ascertained in any way, and they must, therefore, take their stand either on one or the other. Of course they might follow Mr. Hunker in the various matters he had brought before them, staircases especially, and other portions of joinery. He should like the lecturer to take the question of a circular well-hole at an enter cut string, a great deal of the most interesting part of a staircase was hidden by the plaster behind, as the lecturer had remarked; and it was desirable the construction should be visible. In some Gothic works he had seen the whole construction of the staircase seen very well indeed. It would be very useful for all those who wrote specifications to write what was proper, a word which they were in the habit of meeting in price-books. He should like to know what was the meaning of the word *proper* in reference to specifications. It would be of great advantage to them that they should understand the meaning of and be able to use freely all the technical terms which Mr. Hunker had elucidated, and to know how many they should use in describing a thing, and to keep up the same pitch in describing their specifications. He thought an architect in describing his work ought to take much in his specification, and to make it intelligible for the class of contractors he expected to work under him.

Mr. C. H. F. LEWIS said there was one objection to showing the side of the grain, and that was the durability of the wood, especially for outside work.

In reply to a Member.

The CHAIRMAN said the only apparent aim of modern joiners' work was as far as possible to conceal the construction, as in secret dovetailing.

Mr. JOHN BROWN, architect, Norwich, explained, by means of models, his patent chiod fitted strips for window sashes, French and other casements, doors, &c. in various cases, &c., as intended to be used, and other suggestions relating to the imperfect fitting of the above. The patent had been successfully applied in a great many cases.

A vote of thanks having been passed to Mr. BUNKE, on the motion of Mr. NEW, the meeting broke up.

#### BITUMINISED PIPES.

A BRADFORD subscriber asks for information—first, as to whether the patent bituminised pipes are a durable and strong pipe; second, as to whether it is possible to make a perfect plumber's joint where the main and service pipes join; third, whether the water running through is likely to taste of the bitumen.

**INSURIOUS ACTION OF LEAD PIPES ON WATER.**—The Sub-Committee appointed by the Manchester and Salford Sanitary Association to investigate the action of the water supplied by the Manchester Corporation upon lead, have made their report upon this subject, and the Association, in issuing it, especially urge upon all persons using water which passes through lead pipes the importance of attending to the closing action of the report—never to use water for dietary purposes which has remained even for a few hours in the pipes. The Committee state that they are greatly indebted to Dr. Crace-Calvert for the valuable assistance rendered by him in carrying out the experiments at the laboratory of the Royal Institution. New ordinary lead piping, through which the water would pass rapidly without becoming deteriorated, was found to impregnate it with from 92 to 104 grains per gallon after being allowed to stand in it a single night; similar results being obtained from daily experiments extending over a month. When the water was allowed to stand in the pipes for twenty-four hours it became impregnated with from 95 to 25 grains per gallon. The experiments were made upon four varieties of lead piping—extra-thinned, ordinary, best or virgin, and common. The water from the virgin was found to be more impure than that from either the extra-thinned or the common pipe, the ordinary lead containing far more impurity than either upon the first experiment, whilst the second experiment gave a different order of results—the water in the extra-thinned being the purest, that in the ordinary next, then the common and lastly the virgin. From the experiments which have been carried on during a period of two years, in which more than 300 samples of water have been tested, it has been concluded that the action continues for a much longer period than is generally supposed; that when the water remains stagnant in the pipes it not only becomes highly charged with the dangerous poison, but a coating is formed on the inner surface of the pipe, which is subsequently absorbed into the water as it passes through, and which it impregnates with lead; that even after pipes have been used a considerable period, the quantity of lead contained in the water which has remained in them for a few hours in the pipe is quite as great as in cases where serious effects have been known to ensue; that the ordinary water pipe, and that the practice of lining lead pipes with tin affords little, and only temporary, protection, and is of no practical value. Bearing in mind that lead is a cumulative poison, and that it is not only absorbed at the joints, but also at every time, and the foundation be laid for great suffering and physical injury before the symptoms become so marked as to justify a medical man in pronouncing the case to be one of lead poisoning, the discovery and adoption of pipes for domestic supply which could not be so easily acted upon by the water, and especially to our densely populated labour districts. The first step towards remedying the evil is a thorough conviction of its existence, and of the serious results which may follow from disregarding its importance. Let the community at large be convinced of this, and the evil will be more effectually remedied than would be discovered, more especially if the Corporation would offer to parties engaged in the necessary pursuits some inducement to produce a pipe economical in cost, easy of application, and on which the water would not act prejudicially.

#### ROYAL INSTITUTE OF BRITISH ARCHITECTS.

An ordinary general meeting of this body was held at the rooms, P. Conduit-street, Regent-street, on Monday evening; the President, WILLIAM TITE, Esq., M. P., F.R.S., in the chair.

Mr. T. HAYTER LEWIS, hon. sec., read the minutes of proceedings at the last meeting, which were approved of and confirmed.

**Death.**—Mr. JAMES BELL, hon. sec., announced the death of Mr. W. C. Locher, fellow. If any member would communicate some account of his career to the honorary secretaries the council would be obliged.

Mr. T. HAYTER LEWIS, hon. sec., stated that the President had received a letter of which the following is a copy:—

Lieutenant-General Grey presents his compliments to Mr. Tite. He has had the honour to say Mr. Tite's letter of the 27th inst. by his actions, before the Queen and the Royal Academy, granting the royal gold medal to the Rev. R. Willis.

The reading of the letter was received with cries of "Hear, hear." Mr. Lewis then announced that the President had received a letter from Mr. Sydney Smirke relating to some changes made in the rules of the Royal Academy, accompanied with a copy of the new regulations passed by the Royal Academy, relating to the admission of students in architecture, which came into operation at the meeting of the Council on the 19th inst. Professor Smirke, in his letter, said:—

"I think it is right that the attention of the Council of the Institute should be called to the fact that some important changes have taken place in the rules of the Royal Academy, and relating to the admission of students in architecture, which changes came into operation at the commencement of the present year. I send herewith a copy of the laws as they have been amended, which will perhaps be of use to the Institute. I am sure that the increased encouragement held out to architectural students by the institution of bursarial scholarships, and of an annual travelling studentship, besides the gold medal travelling studentship, as heretofore."

But the chief object of my present communication is to suggest that the Council of the Institute should determine the nature of the certificate, which, as it is now operative, is now substituted for the preliminary preliminary drawings which have hitherto been required to be expressly made by all who desired to be admitted as students in the Royal Academy, and that the applicant should be required to submit a specimen of his proficiency with new suffices. The Council should, I submit, decide at once on the form of the certificate, and on the nature of the original to which the Council may deem it expedient to submit, that no student should be admitted to the Council of the Institute as a student in the Royal Academy. Any regulations in this respect that the Institute may think proper to lay down, I shall feel much gratified in communicating to the Council of the Academy.

The reading of the letter was received with applause.

The CHAIRMAN said that it must be a great pleasure to them all to find what was the encouragement held out to architectural students now, which was not the case when he and other gentlemen present were students at the Royal Academy. He was very glad to find that greater attention was being paid to architecture by the Royal Academy, and that they were doing so in a more judicious manner than the Royal Academy to promote architecture by all the means in their power.

Professor DONALDSON showed from the new rules of the Royal Academy that architectural travelling students would derive great advantages under their operation.

Mr. G. GILBERT SCOTT remarked that there were also some facilities for students in architecture becoming also students in figure drawing; they had not taken enough of the latter subjects, and they were not doing so in a judicious way, rather less requirements being laid out for an architectural student.

After a few remarks by Mr. C. H. SMITH the subject dropped.

**The Art-Copyright Bill.**—Mr. R. G. GOSWOLD inquired whether the attention of the Council had been directed to the Art-Copyright Bill now before Parliament. In the present Bill architecture was altogether left out, and the general opinion that prevailed in respect of it was shown very forcibly a short time ago, when the Lord Chief Baron, in summing up a case (in which an action had been brought by a photographer to protect certain photographs and which he succeeded in maintaining), pointed out what could be protected and what not. For instance, if a person paid an architect a hundred guineas for a design, any one, when it was executed, could produce it; but the Lord Chief Baron said that if a person paid a negative for a photograph, and thereby produced positives of architects' buildings, he was liable to an action. A greater proof could not be given to show the necessity of protecting the architects.

The Chairman had already been noticed by the Council, and would not be neglected by them.

**New Members.**—The following gentlemen were duly elected, after having been balloted for:—Mr. Thomas Chastell Clarke, Associate, of 137, Leadenhall-street; Mr. Charles Fox, Junr., Fellow, of 10, St. John's-street, E.C.

**Pictorial Music as an Architectural Embellishment.**—Mr. M. DIBY WYATT, V.P., then read a paper entitled "On Pictorial Music as an Architectural Embellishment," which will be found in another portion of this issue. The paper was illustrated by a great number of drawings, rubbings, mosaic-work, engravings, prints, designs for mosaics, materials for the formation of mosaics, &c., &c.

The CHAIRMAN said he was quite sure they were all felt great obligations to Mr. Wyatt for his paper, and that it was a very good form of expression of the subject with the greatest simplicity, because it was a subject which Mr. Wyatt thoroughly understood, and that evening he had developed it with much ability. The subject of the lecture was one of great importance at the present time, when efforts were being made in every way of carrying out the Italian system of carrying out beauty. The difficulties in this country attending the execution of the extra-ordinary work of mosaics appeared to have been overcome, for a specimen before them showed that English workmen could produce work equal to the very best work of the present time. He then intimated that he was very much gratified as to the probability of introducing mosaics into the great metropolitan cathedral of St. Paul's, and the probable expenditure of doing so.

Mr. PENROSE, Mr. Wyatt in his paper that evening had referred to certain results which Mr. Penrose had arrived at in Italy respecting the cost of mosaics. With respect to the estimate of an extraordinarily high figure from Rome, he had no doubt it was a veritable estimate, given in figures which he could not mistake, and he had no doubt that if they went so far the money made the estimate would be very glad to execute the work for the money named in

the estimate. But as he knew the style of work at Rome was of a more expensive character than was wanted here, he did not think it right to estimate the matter further, or to attempt to cheapen the work. From inquiries as to prices made at Murano and other places in Italy, he believed that work at a distance might be done in mosaic for 2s. a foot—that was including all work. On the principle of the prices in Italy he had calculated—and he believed the fact of its being so cheap was due to the execution than if one did not believe in it and hope for it—he imagined that he might cover the whole dome of St. Paul's, as Christopher Wren intended it to be, under £30,000; and the dome comprised about 15,000 feet—each of under £20,000; and the cover the space of the dome, each about 250 feet, at rather a large figure per foot, but still at an expense of about £20 each, and so on for other portions of the cathedral. He supposed that if they had £20,000 for the work, the fact of Sir Christopher Wren's idea of carrying colour through the whole of his great building could be carried out. He must own he felt a great bias in favour of vitreous material rather than another, because he thought there was a greater degree of colour obtainable by it, and he believed the work to be done otherwise than by employing English workmen, because he thought the employer and the employed would understand each other better, and that, by the workmen's skill, better work would be obtained than by the employment of Italians. But, in the first instance, he thought of obtaining the material from places where it was best made, and then of encouraging our own manufacturers to equal or surpass it. About three years ago the committee of St. Paul's had £50,000 in hand, and he thought that with that sum they might do a small specimen of mosaic work, but they found more important matters to spend their money upon, and since that time he had not had any immediate hope of their executing any mosaic, but he did not resign his expectation and hope to have, on a future occasion, the aid and privilege of explaining to the faithful what had been done at St. Paul's in this respect instead of speaking of what it would have been done—(Applause).

The CHAIRMAN invited Mr. Ferguson to make some observations on East Indian mosaics.

Mr. FERGUSON said there really was very little or nothing known about East Indian mosaics. It was quite certain there was no Italian drawing in design amongst them; they were purely local. Some of the patterns cut in stone, tiles, in Jasper, agates, and bloodstones, were extremely beautiful and greatly elaborate. The effect was as highly pleasing as that of any ornament he knew of. If the Italians did suggest this mode of decoration to the Indians, the latter carried them out in their own way, and improved upon them. But there was extremely little known respecting them or who did the work. In ancient times suggestion thrown out by Mr. Penrose. Mr. Ferguson referred to the mosaics found in the basilicas and round churches of Salencia. The round churches there were covered with mosaics from the third or beginning of the fourth century, extremely beautiful, and still perfect. He believed there were better specimens, perhaps, of the twelfth century. They were the most interesting series of mosaics.

Professor DONALDSON moved a vote of thanks to their friend Mr. Digby Wyatt; he was sure the attention of all had been riveted by the very able, amusing, and instructive lecture which he had given them that evening. His lecture was of the greatest value to every one present, and he had hardly left any subject to be made by them or who did the work. In ancient times a few suggestions which he should like to throw out. He was inclined to think that the subject of tesserae mounted higher than Mr. Wyatt admitted; he thought the art mounted to a very high origin indeed, and the traditions handed down to us seemed to show the art to have been of the highest antiquity. In structure, monumental edifices, and every building adapted for any use at all. In Cairo you could not go into any church that had not its mosaic pavement throughout, and even in the commonest buildings the visitors found the most beautiful geometric pavements of all colours, and having in them very valuable stones. And at Venice the floors were a copy of the very same style of art pursued in mosaics by the ancients. Mr. Wyatt had alluded to the mosaics in the church of Novara, and he (Professor Donaldson) was some few years ago much struck with the pavement there; the mosaics were extremely interesting, and any of their friends who travelled in the north of Italy he should advise to visit Novara, and study the mosaics there, for they were very curious. With respect to the Cretan pavement, which he had alluded to, he had seen and assembled the Greek. In the tesserae there was great variety of delicate tones, which had very great effect. There was a polish, vigour, and intensity about the mosaics which drawings of them did not give. And, besides, the tesserae were of various sizes, and were set in the lower room of the British Museum. Many of them were very fine compositions, while others were coarse. Mr. Wyatt seemed to think that the art of Rome sprung up full-grown, but he did not think any art could do that, and mosaic grew for years. No doubt it grew, and it grew for years, but they must have studied for years in the carrying out and perfecting of their own style. He thought the art of Rome must have gone through many years, perhaps centuries, before it attained that perfection in which it was found. The pavement of the present day exhibited a taste for mosaics. With respect to the Indian mosaics they had always appeared to him to be very much of the Italian sentiment, and some of them reminded him of the Florentine mosaics, having been then a great deal of the same sort. And, perhaps, the Indian mosaics were better executed than those sent from Florence, and were more powerful in identity between the productions of the one country and those of the other. There was a great deal of American influence upon some of the Indian mosaics. The learned Professor then related some of the facts of the mosaic work. They were the very highest specimens of art. They were in design and execution inferior to none that had been exhibited at Rome. He hoped the Trustees of the British Museum would not leave the mosaics in their possession in the cellars of the institution, but bring them to the light, so that they might be better examined.

Mr. G. GODWIN referred to the point of durability. At Cirencester and other places the pavements were in a wonderful state of preservation, and when they recalled the condition of some of the pavements which had been laid only four or five years, and were worn away already, or saw that they should apply themselves to the question of durability. He pointed to the very elaborate mosaic in front of the altar at the church of Wilton, a portion of which was very much worn and the colour very much decayed. Instead of giving up wholly vitrified pavements they ought to consider well before they did so. He seconded the vote of thanks to Mr. Wyatt, who had thrown himself wholly into this subject and exhausted it.

The CHAIRMAN said there was one caution which his own experience would teach him to associate with pavements. He intended introducing a pavement of that kind into the Royal Exchange, and it designed by an eminent artist, and carried out by Mr. Singer. But the Portland cement in which the tesserae were set decomposed, and it became as soft as if they had been set in putty. The result was taken up, and the mosaic whole beneath the pavement was torn. The setting of pavements that were to be walked upon was of the greatest possible importance, and it was a matter that required a great deal of caution. Regarding that point they had some experiments to make and greater experience to obtain.

The vote of thanks to Mr. Wyatt was carried by acclamation.

Mr. WYATT, in acknowledging the compliment, remarked that as to ancient mosaic found in this country, they were found of the most mixed materials.

Professor DONALDSON said that with respect to the mosaic in the altar at Westminster Abbey; he did not know whether their friend Mr. Scott had made any particular observations respecting it.

Mr. G. G. SCOTT thought if Mr. Donaldson examined it he would find it was made of marble.

Professor DONALDSON.—No; he had examined it.

Mr. HAYTER LEWIS.—When at Venice a short time back he saw them repaving a beautiful mosaic, and the old gold was found to be of the richest character.

Mr. WYATT.—The old gold was entirely different from the gold used at the present day, and that led to a difference in the effect.

Mr. FERGUSON said that he had no objection to external mosaics, of which there was a fine specimen in the Cathedral at Prague. All the mosaics of which Mr. Wyatt had spoken were under cover, under shelter. But it was proposed to have mosaic wall pictures on the outside of the permanent picture galleries for the International Exhibition, in Cromwell Road, and Mr. Wyatt was asked to express his opinion.

Mr. WYATT avoided referring to external mosaics, the object of the paper being to bring before the meeting mosaics suitable to this country. He thought it was almost impossible to make external mosaics without the joints being somewhat open, so that the moisture got in, and frost followed, which, of course, injured the mosaics.

The meeting then broke up.

## ARCHÆOLOGICAL INSTITUTE.

A MEETING of the members of the Archæological Institute was held on the 17th inst., G. MORAY, Esq., M.P., V.P., in the chair.

The first of Mr. MACDONALD's illustrations was a rubbing from a remarkable incised slab, of an inscription of very remote antiquity, now preserved in Ghazni.

Mr. DONALDSON read an account of excavations carried on recently by him on the site of the great Abbey of Chertsey, and of the discoveries he had made, enabling him to trace out the entire ground-plan of the conventual church and other subsidiary buildings.

A series of drawings, by Mr. ANGELL, were exhibited, representing a great variety of pavement tiles with designs from romances, the signs of the zodiac, and others simply geometrical. Many of the original tiles were also exhibited, as well as some portions of gilded and painted mouldings, models of several stone capitals, and other objects of interest brought out by the course of the excavations. Mr. Angell, the proprietor of the site of the Abbey, expressed his readiness to oblige any member of the Institute who might desire to examine these very interesting remains.

Dr. WILKINS described the discovery of Roman remains recently, near Newport, during the operations of some railway works. A large number of cinerary urns were found, indicating probably the site of an extensive cemetery. They were of the usual brown ware. Quantities of oyster shells were also turned up, and fragments of Samian ware and other objects, signs of an extensive occupation by the Romans.

Mr. ARTHUR TROLOPE communicated an account of a singular shaft lately found in the garden of a house in Lincoln.

Mr. S. P. FREEMAN exhibited three gold medallions, lately obtained from Athens. The subjects represented are Bacchante, and of Greek workmanship, in *baso relievé*, highly finished.

Professor DONALDSON exhibited two funeral urns, lately found in catacombs near Alexandria, and also two drawings of the chambers, &c., which had been forwarded to him by Mr. H. J. Rouse, the engineer engaged at the railway works which have brought these Columns to light. One of the urns exhibited was still unopened; the other was of black ware, with wreaths and other ornaments painted in white.

Some Spanish, German, and Italian weapons were exhibited, and some examples of the Minoan sword—a part of a steel sword, decorated with engravings with the royal arms of Portugal, together with powder measures, spencers, plug bayonets, daggers, &c., by Mr. Bernhard Smith and Mr. R. T. Pritchard; also some weapons found in the Thames, brought by Mr. W. Burgess.

Mr. W. W. WYNN, Esq., exhibited some early documents relating to Wales; also a beautiful ivory diptych, with sacred subjects, from Valle Crucis Abbey; a set of counters, engraved with royal portraits, probably by Crispin de Pape; Mr. H. J. Rouse exhibited an oval silver medallion with a portrait of Mary Queen of Scots, with the date 1580. The costume, &c., resemble those in a portrait of Queen Mary in the possession of the Duke of Devonshire, at the date of this medalion.

The Rev. E. L. BARNWELL sent a stone hammer-head, of white stone, being hard and bearing a high polish, the surface worked in grooves in a reticulated pattern.

Two silver matrices were sent by Mr. WATERTON, and a lock and key of Nuremberg work.

SOUTH KENSINGTON MUSEUM.—During the week ending 15th March, 1862, the visitors have been as follows:—On Monday, Tuesday, and Saturday, free days, open from 10 a.m. to 10 p.m., 13,095; on Wednesday, Thursday, and Friday, open from 10 a.m. to 5 p.m., 12,541; on Saturday, 11,350. Total, 41,215. From the opening of the Museum, 2,551,502.







## IMPROVEMENTS IN BUILDING, &amp;c.

**EXTINGUISHING OF FIRES IN WAREHOUSES AND OTHER BUILDINGS.**—Dated August 2, 1861.—R. Tomlinson and O. W. C. Wren, Liverpool.

This invention consists in the use of a supply of pipes connected to an underground high-pressure water main, or to an elevated reservoir, a supply pipe which is carried to the side of the warehouse, and, about 1 foot or 4 feet above the level of the parapet, where it opens into a room formed in the side of the warehouse, and which may be fitted with a lock-up door. A suitable length of pipe is placed horizontally upon the level of the vertical pipe forming a T-junction bend, and which is intended to be used in the room. The floor are connected. These branch pipes are fitted within the lock-up box with suitable stop cocks and handles, numbered correspondingly with the rooms above, and which, upon the discovery of any fire, the fire being caused by the pipes, and the water being supplied with a key to the lock-up box. The pipes may be placed in any convenient position within the rooms, may along the ceiling or rows, or connected together by transverse pipes, these pipes are perforated with holes in any desired manner, by which these arrangements a large quantity of water may be immediately supplied of the rooms either separately or together, at the required, and these perforated pipes may also be applied to the inside of the roof of the building.

**WINDROW FARRER.**—Dated August 7, 1861.—D. Miles, Newport.

The patentee claims the combination of parts led or kept together by metallic tongues, forming, when complete, a rigid and secure window sash, and permitting, on the withdrawal of the said metallic tongues, the window sash to be raised or lowered, in order that either side of the glass may be cleaned from the interior of the room or chamber at pleasure. Also the combination of parts in using which he dispenses partly with the metallic tongues for the lower sash, or for both upper and lower sashes, and uses a spring catch, or two spring catches, in lieu thereof. Also the combination of parts by which he causes both upper and lower sashes to prevent injury to either other face of the glass to the interior of the chamber, substituting the use of spring catches in lieu of metallic tongues.

**COVERING FOR HOUSES, &c.**—Dated July 7, 1861.—N. A. Loomer, Paris.

This invention consists in the use of a covering of iron plates or of iron grooves, notches, or mortices cut in detail, the facility of being set and fixed rapidly, solidly, and economically.

**THE CONSTRUCTION OF DOORS, GATES, AND SHUTTERS, PRINCIPALLY APPLICABLE TO FIRE-PROOF BUILDINGS.**—Dated August 2, 1861.—H. G. Simmons.

This invention consists in forming the above-named articles of parallel iron or other metal bars, rebated or grooved to receive bricks or other moulded forms of earthen material in many cases ordinary bricks are preferred, the perforations being made, and be variously disposed according to the structure required. The parallel iron bars are combined with an external iron framing of the form and size desired.

**PROTECTING AND ARRANGING WATER PIPES, AND MECHANICAL CONTRIVANCES FOR TRANSMITTING THE WATER, BY MEANS OF PIPES AND FLEXIBLE TUBES, THEIR BEING INVENTED BY FROST.**—Dated August 2, 1861.—G. P. Jones and J. Jones.

This invention relates, first, to supply pipes. It being usually inconvenient or impracticable to place them sufficiently high to prevent the freezing of frost, and the use of the patentees protect the same by coating them with, or embedding them in, some one or other of the substances which are the slowest conductors of heat (such as felt, straw, or hay or India rubber, &c.) and, secondly, to the use of a covering of iron plates or of iron grooves, notches, or mortices cut in detail, the facility of being set and fixed rapidly, solidly, and economically. This invention relates, first, to supply pipes. It being usually inconvenient or impracticable to place them sufficiently high to prevent the freezing of frost, and the use of the patentees protect the same by coating them with, or embedding them in, some one or other of the substances which are the slowest conductors of heat (such as felt, straw, or hay or India rubber, &c.) and, secondly, to the use of a covering of iron plates or of iron grooves, notches, or mortices cut in detail, the facility of being set and fixed rapidly, solidly, and economically.

**FIRE-PROOF BUILDING.**—Dated July 25, 1861.—J. Simmons.

In carrying out this invention the inventor proposes to make the cast-iron girders and columns used in supporting the various floors, and the iron beams and trusses, to be made as a manner as to form a canal watercourse throughout the whole series. The tabular columns are made up from the basement to the roof, where he connects them with a water-tank which may cover any given surface of the roof, and the series of columns he also connects with a series of hollow girders, which serve to carry the several fire-proof floors. He brings down water from the tank to the basement of the building by suitable pipes running either outside the building or enclosed in brickwork, so as to be protected from the action of fire in the building, and at the basement he connects this supply with the vertical columns which carry the hollow girders. By this arrangement, should a fire occur in any part of the building, the adjacent hollow metal supports will become heated, and the water contained therein will be caused to rise, and escape in a stream flowing upward, and out water taking the place, and absorbing the heat imparted by the fire to the metal. Thus the temperature of the metal will be effectively kept under, and the discharge of water to the extent of the metal will be an efficient means of preventing the progress of the fire.

**MACHINE FOR CUTTING WOOD.**—Dated July 25, 1861.—R. Thompson.

This invention consists in an arrangement of machinery whereby revolving cutting tools for chiselling, grooving, moulding, and other similar work, can be moved whilst in the operation of cutting either vertically or horizontally, and the movement being given him complete command over the tool to follow any line of cut traced out, without in any way interfering with the revolving action of the cutter or the driving power. The principle consists in mounting the cutter on a horizontal axis, and the driving power on a vertical axis, to travel along a beam, revolving motion being communicated to the cutter by a gear or wheel in the following manner:—Motion is communicated from the driving power to a double-grooved pulley revolving from a horizontal axis, and the motion of the pulley is pivoted. A second gear or band passes round the outer groove of the double pulley, and the entire motion, so as to revolve the cutter, and the motion of the pulley is pivoted to a third pulley upon the opposite end of the beam, and last, said, and clear of the cutter, being pivoted to the first pulley. The traverse block or carrier can thus travel along the beam, carrying with it the cutter, without the revolution of the pulley.

**FOR PREVENTING THE WIND DRAUGHTS AT THE FOOT OF DOORS, AND ALLOWING THEM TO OPEN OVER CARPETS OR OTHER SUBSTANCES WITHOUT THE USE OF RISING HINGES.**—A. Wheeler.

This invention consists of two pieces of moulding the width of the door, made in any kind of wood or metal, the lower or bottom piece much stouter and heavier than the upper piece, and they are attached to each other by cords or chains, leaving space between the two pieces of moulding to allow of the lower piece rising and falling, and the upper piece remains the door may have to travel over. The upper piece of moulding is made in the form of a double pulley, and the lower piece is made in the form of a band, passing round the outer groove of the double pulley, and the entire motion, so as to revolve the cutter, and the motion of the pulley is pivoted to a third pulley upon the opposite end of the beam, and last, said, and clear of the cutter, being pivoted to the first pulley. The traverse block or carrier can thus travel along the beam, carrying with it the cutter, without the revolution of the pulley.

**WATERLOGGERS AND URINAL APPARATUS.**—N. CUMBER.

Here the inventor uses an air-tight vessel in which water sufficient for one discharge is collected as the water accumulates, and the water is discharged by means of a pump, the discharge takes place the water will rush out with a force due to the degree of compression of the confined air.

## TENDERS.

**DWELLING-HOUSE, ABERLEY.**

For erecting a dwelling-house in the Oakfield-road, Aberley. Mr. George Elkington, architect. Quantities supplied by Mr. R. C. Harris.			
Luncombe .....	£1,476 10	Kent .....	£1,277
Downs .....	1,270 0	Corder .....	1,265
Barrett .....	1,297 0	Thompson (accepted) .....	1,230
Coleman .....	1,279 0		

**MANSION, OMAH (IRELAND).**

For additions and alterations to Seashore House, near Omagh. Messrs. Boyd and Bait, architects, Belfast and Londonderry.			
Mullin	£2,500	McGauchey	£2,100 0 0
Ferguson	2,332	M' Clelland (accepted)	2,074 10 5
Stewart	2,181		

**ALTERATIONS, DUBLIN.**

For alterations to a house in Grafton-street, Dublin. Mr. Hoare, architect.			
Clarke .....	£250	Grant and Lennon (accepted) .....	£25
Drysdale .....	343	Smith .....	70

**POLICE STATION, COVENTRY.**

For a new police station at Longford, near Coventry. Mr. William Kendall, county surveyor.			
Dutton .....	£1,200	Fox .....	£1,164
Robinson .....	1,297	Hallam and Price .....	1,125
Marriont .....	1,240	Potter .....	1,020
Matthews .....	1,178	Storer, Jun. ....	934

**BRIDGE, LEITCH.**

For the ironwork and fixing for a cast-iron girder bridge of 42 feet span, average width between parapets, 27 feet 6 inches, for crossing the river Bear, at Leicester. Mr. R. L. Nicholson, borough surveyor, engineer.				Quantities supplied.
Dunn	£928 0	Haywood	£355 0 0	
Robinson	155 0	Shannon	44 0 0	
Swingler	705 0	S. Pegg	39 0 0	
Stapp	649 0	J. Flegg and Co.	490 0 0	
Green	620 0	Johnson	398 0 0	
Galloway	600 0	J. and R. Cliff	392 10 0	
Hend, Ashby, and Co.	600 0	Law and Sons	360 0 0	

**REPAIRS, &c., POCCLETTY.**

Repairs and alterations, 3, Little St. James-street, Piccadilly, for J. Dobson, Esq. C. J. Adams, architect.		
Clements	£118 8	Williams (accepted) £131 0
Architect's estimate		£140

**DWELLING-HOUSE, STRATFORD.**

For house at Maryland Point, Stratford, for Mr. J. Wood, of Bethnal-green. Mr. S. W. Iron, surveyor. Quantities supplied by Mr. Brett.			
Larks .....	£360	Brett .....	£319
Reed .....	353	F. and F. J. Wood .....	297
Marshall .....	379	Jay .....	225

\* Letter afterwards received from Mr. Jay, stating his tender should have been £225.

**LUNATIC ASYLUM, KENT.**

For lunatic asylum at Stone, Kent, for the Corporation of the City of London. Mr. Bunning, architect.			
Wheeler	£45,000	Ascher	£45,000
Holland and Hansen	44,000		43,000
Byler	42,000		41,000
Higgs	43,445		42,000
Brown and Son	43,796		40,106
Stewart	43,700		41,200
Neill and Robinson	42,670		40,920
Lucas Brothers	42,000		40,000
Hunt	42,500		41,400
Lill and Co.	41,000		39,004
Myers	40,017		40,100
Ashford and Co.	40,140		39,600
Asby and Horner	39,270		39,500
Perry	39,475		37,575
Wilson	39,425		38,925
Piper and Wheeler	38,464		37,764

**DWELLING-HOUSE, BEDFORD.**

Holland and Hannen .....	44,000	....	43,000
Ryder .....	44,300	....	42,800
Higgs .....	43,445	....	42,000
Sewell and Son .....	43,196	....	40,106

**CATTLE MARKET, COLCHESTER.**

Conger .....	43,600	....	40,400
Lucas Brothers .....	42,200	....	41,550
Hill and Co. ....	41,000	....	39,000
Myers .....	40,827	....	40,150
Anford and Co. ....	40,140	....	39,600
Robb and A. Mason .....	39,870	....	39,500

**WORKHOUSE, LANCASTER.**

Wilson.....	39,425	....	39,925
Piper and Wheeler .....	38,464	....	37,764

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DWELLING-HOUSE, BEDFORD.

For the erection of dwelling-house and offices, near St. Guildhall-street, Bedford. Mr.

**Field and Brughton.**

R. Bell	£234 12 6	W. Barn (accepted)	£230 0 0
G. W. Barn	250 0 0		
John Young	250 0 0		
Fryer	£1,728 0	Wood and Co.	£1,291 10 0
Brooke	1,472 0 0	Baldwin (accepted)	1,290 0 0
Clark and Co.	1,400 0 0		

**FOR THE ERECTION OF THE CATTLE MARKET, COLCHESTER.**

For the erection of the Colchester new cattle market.		Mr. J. S. Cooke, C.E.	Quantities
by Messrs. R. L. Curtis and Son.			
Sawyer	£1,933 0	Lee and Baker	£1,406 10
Parker	1,800 0	Dobson	1,357 10
Rayner and Co.	1,521 0	Orrin and Eldon	1,248 10
Start	1,413 0	Strickson	1,150 0
		Hunt	1,140 0

**WORKHOUSE, LANCASTER.**

WORKHOUSE, LANCAHIRE.			
For works required at the workhouse now in course of construction at Blackburn, Lancashire. Quantities supplied by the architect, John Edward Outen, York and Halifax.			
Masonry to Entrance Lodge, and to complete Retaining Wall.			
Field and Brughton	£941	17	8

**Field and Brughton.**

R. Bell	£234 12 6	W. Barn (accepted)	£230 0 0
G. W. Barn	250 0 0		
John Young	250 0 0		
Fryer	£1,728 0	Wood and Co.	£1,291 10 0
Brooke	1,472 0 0	Baldwin (accepted)	1,290 0 0
Clark and Co.	1,400 0 0		

**FOR THE ERECTION OF THE CATTLE MARKET, COLCHESTER.**

Gas Tubing.			
Cowburn .....	£253 10 0	Peter Walsh .....	£190 0 0
J. Metcalfe .....	296 0 0	T. C. Wolstenholme (accepted)	189 0 0
John Bell .....	195 0 0		

**WORKHOUSE, LANCASTER.**

HOUSES, NEW WANDSWORTH.			
For a pair of houses to be built at New Wandsworth, for Thomas Cole, Esq. G. H. Page			
Architect.			
Wine and School	£ 829 1 Westcott		£ 160

**Field and Brughton.**

R. Bell	£234 12 6	W. Barn (accepted)	£230 0 0
G. W. Barn	250 0 0		
John Young	250 0 0		
Fryer	£1,728 0	Wood and Co.	£1,291 10 0
Brooke	1,472 0 0	Baldwin (accepted)	1,290 0 0
Clark and Co.	1,400 0 0		

**FOR THE ERECTION OF THE CATTLE MARKET, COLCHESTER.**

For the erection of the Cattle Market, Colchester, for Messrs. R. C. Curtis and Son.			
Sawyer	£1,265 0	Lee and Baker	£1,400 10 0
John Young	1,000 0	Dobson	1,357 10 0
Ryder and Co.	1,021 0	Urrin and Eldon	1,248 10 0
Hawkins	1,444 0	Hunt (accepted)	1,149 0 0





## ARCHITECTURAL EXHIBITION.

## THE CONVERSAZIONE.

THE *Conversazione* inaugurating the twelfth season of the Architectural Exhibition, took place, as many of our readers are aware, on the evening last, when, notwithstanding a very unfavourable weather, and a little mismanagement in selecting an evening long appropriated by the Architectural Museum, the rooms were for several hours crowded with visitors, among whom the large number of artists, who by their presence greatly contributed to the success of a most successful gathering, was very notable and gratifying.

Among those present—the number of visitors throughout the evening was mentioned as amounting to nearly 800—were the Marquis d'Azeglio, Badrodeen Tyalgae Sahib, Dr. Samuel Kinn, the Rev. R. Burgess, B.D., Dr. Brandon, Professor Robert Kerr, Messrs. Mayhew, John Billing, William Wylson, W. Burgess, T. Rickson, Edward Blatchley, J. W. Peacock, G. Godwin, C. F. Hayward, J. W. Papworth, Randall Davis, E. B. Lamb, T. Roger Smith, R. O. Harris, R. P. Spiers, Thomas Blashill, G. B. New, T. D. Wyatt, Dollman, Edmeston, Truett, &c.

In the course of the evening, Mr. Edmeston, in the absence of Mr. Aspland from indisposition, said the Committee were glad again to meet the members and friends of the Institution at another Exhibition, and referred with satisfaction to the fact that the receipts during the last year had been sufficient to meet the necessary expenses of the Exhibition, though they were some what augmented in consequence of new regulations being made, one of which was that the Committee determined to pay the carriage of all drawings from country exhibitors amounting to a good deal of money in the course of the year, and also because exhibitors had free tickets given to them. However, the money received had been sufficient to meet the expenditure, and that was all they wanted. With regard to the present Exhibition, he was able to allude with very great pleasure and satisfaction to the large and interesting collection of drawings and sketches by Mr. Pugin in the West Gallery. The Committee of the society had always from the first persevered and succeeded in keeping the season tickets at the very low price of half-a-crown, their object being not to make money, but to give facilities to the public to visit the exhibitions, and to encourage, as far as possible, the elevation of public taste and the spread of art instruction. The Committee having heard that Mr. Pugin was collecting in all quarters, and from all sources, the drawings and sketches of his late father Mr. Welly Pugin (who was so well known in connection with architecture, for the purpose of exhibiting them in a collected form, it occurred to them that it would not be advisable to have two architectural exhibitions simultaneously, but that it was desirable to have the two collections in one exhibition. Mr. Pugin had already incurred some expense in preparing the collection of his father's designs, and the room for exhibition had been taken; negotiations took place, and it was arranged that the two collections should be exhibited together under the same roof; that the subscribers and season ticket holders of the Architectural Exhibition should have free access to the Pugin Collection, and that non-subscribers and those who did not possess season tickets should pay one shilling for admission to the Pugin Collection, as well as a shilling for admission to the collection of the Architectural Exhibition. He thought that all would see the propriety and advantage of possessing themselves of half-crown season tickets instead of having for a single admission to pay a shilling at one door and a shilling at another. The Society had sent no drawings away to make room for the Pugin Collection. This was the twelfth Architectural Exhibition, and the first of the catalogue; but it was, in reality, the tenth since the present Committee was formed; for ten years the same secretaries, Mr. James Fergusson and himself, had acted in the interest of the institution, and it was with much satisfaction, considering they sprang from so small a beginning, the Committee met the members and friends under such auspicious circumstances. They had established the Exhibition, and had got it a home of its own, and they could all look back with satisfaction at the result, as well as with gratitude to the support of the public. But they ought to see many more names in their catalogue among the leading members of the architectural profession. An architect was not like a painter, who might produce, perhaps, only two pictures in a year, but an architect had many drawings going through his office every year, the exhibition of which would tend to the elevation of public taste, and the teaching of young men who might come to the galleries to study. There was room for reform in this respect. The Committee had hoped that there would have been, rather than fewer, an example of the skill and taste among a certain body who had the management of a very important

undertaking. Therefore they ought to do all they could to improve the public taste.

The Rev. R. Burgess, Chairman (who stated that he had been unexpectedly called upon to preside), said, exhibitions seemed to be the order of the day, and this one, he thought, would be well attended by the public. Whereas a person would have now to pay two shillings for a single admission to the whole of this Exhibition, he could have a season ticket for half-a-crown; and if the Great Exhibition authorities had afforded similar advantages, they would have sold a great number more season tickets, and consequently more exhibitions tended very much to the promotion of art and science in this country, and had really become schools of instruction for those who were not professionally engaged, but who still wished to correct their tastes and improve their information on such subjects. Looking from that point of view, they were exceedingly important. This Exhibition was a peculiar one; it was a combination of architects who contributed architectural drawings. They were a class of men, and they had much need to study architecture in this great metropolis when they compared its architecture with that of other capitals. It seemed that with Parliamentary supplies and votes of money, it was impossible for us to produce architecture as he was the patron. He wished more liberality was exhibited in voting money for public buildings, so that they might be an honour to the country. The more they studied civil architecture the more they would insist on the improvement of our metropolis. He was sure they would all feel and sympathise with the fact that one of the patrons of that Institution, as he was the patron of every other that promoted art—his late Royal Highness the Prince Consort—they had lost since they had met together at the last Exhibition. They had lost that great promoter of art and of everything that tended to elevate the tastes of the people of this country. It was a great loss, and it would be difficult to replace that loss, which was, he thought, a want of consideration and almost of respect to the Institution, that so many of our architects whose names were before the world should withhold contributions to the Exhibition.

Professor Kerr said, as to the observations which fell from Mr. Edmeston and the Chairman as to the non-exhibition of drawings by prominent architects, he hoped no one thought they were speaking in disparagement of the drawings exhibited. All they wanted was to see brought together there from year to year a good average collection of the works of the year, so that they might keep well before the public; but they did not wish to impose on the public by any false display, or to give the public an erroneous notion by an inferior display.

Passing through the rooms the display visible upon the walls would occasion some anxiety, if we were not fully aware of the circumstance which has caused it. We were, in fact, agreeably disappointed to find the Exhibition even so good as it is, in the face of the infinitely greater expectations of the galleries of the Royal Academy, the Royal Society, the Committee of the Conduit-street Exhibition were not so fortunate as the Royal Academy in commanding sufficient interest to obtain a disqualification at Brompton for all drawings not previously exhibited, thus preserving the works of the current year for their own galleries. The consequence is, that all the architects have been months busy preparing drawings of their best works, our foreign visitors will seek in vain for them at the Exhibition which is opened expressly and exclusively for them. We cannot complain of this result; it would have been foolish to expect otherwise; but we had every hope that the members of the Committee would at least have individually exerted themselves to supply the deficiency which they could not anticipate. Instead of which those gentlemen are foremost amongst the absentees. Half of them have not been able to afford even a solitary contribution; three out of the nine who do contribute send but one drawing or photograph, and one of the remaining six shows us what at first sight appears but smoked glass, but what the catalogue kindly informs us are photographic views of Halifax Chapel. Mr. Edmeston, the Honorary Secretary, shows his accustomed zeal on behalf of the Society, which is so much indebted to him for his exertions. The designs are no great attraction to the walls, but they at least answer a good purpose this year in his own space. Mr. Aspland, who is absent, is, he is to be sure, as to be with difficulty recognised. The only member of the Committee who comes out in his old form is Mr. Lamb; he contributes no less than nine frames, containing altogether between thirty and forty subjects. They are not all new; they belong to the past, present, and future. One, a sketch for a "Public Library." It is, if it mistakes not, that which was submitted for the Liverpool Library some seven or eight years ago. They all bear more or less the stamp of Mr. Lamb's original and fertile mind; whether it be a simple cottage, warehouse for the Consignment and Store Company, or a large public building, he contrives to impose some characteristic feature into his work.

The architectural Royal Academicians, as usual, withhold their August patronage from the Architectural Exhibition; but as they so frequently we may almost say constantly—show the same modesty in Trafalgar-square, we have not much to complain of. As it has, however, all along been more than likely that the best men of former years would this season be absent, we thought it not improbable that the honoured and distinguished personages, who are the opinion of the public, and who are so well rewarded, which they have been so justly rewarded. The International Exhibition would not confer a higher dignity than that which they possess. They would certainly have created interest in Conduit-street. Where, again, are the living English professors of the Queen's gold medal for the year 1861.

Not certainly where they are, but where they are, as appropriate as architectural institution which needs the support of the best men in the profession in

order to make it worthy of it. We do not say that the lights which have so long been kept under a bushel have gone out, but we must be pardoned for saying that their brightness, so closely hidden, is of very little use. We walk through London; we look through the weekly list of tenders in our journal, and we find that architects have not been idle; we know they would be criticised if the Architects' and Exhibition Societies were to censure, and yet they cannot seemingly give it that support which is essential to its existence, and which it deserves to possess. An architect who erects a large or a public building can afford to make a drawing of it for exhibition; an architect who submits a drawing in competition incurs no extra charge in tending it for a season; architects, again, who have made the profession a step-mother to a great reputation have to carry out their duties intimately associated with their honours—duties which should induce them to set before their professional brethren examples of the excellence which has secured to them so disfigured and envied a position, thus to guide us in the path which we should tread.

The result, then, of the modes of our great men, of the thoughtlessness or indifference of those of whom we more regret the temporary loss, and of the greater attraction at the International Exhibition, is that the walls at Conduit-street are very liberally sprinkled with drawings, which, but that they hide what would otherwise have had to be left blank, ought not to have been hung at all; and that, even with this unwelcome aid, the Great Gallery alone is filled. There is no so in suppressing this unpleasant fact, the very knowledge of it may be a stimulant to exertion next year.

Fortunately, on the present occasion, a grand collection of Pugin's sketches have been systematically arranged in the West Gallery, the walls of which, as well as two large screens, are completely covered with them. We shall speak of them more fully presently, but may not simply remark, that 900 unpublished drawings of the great pioneer of the Gothic revival, are sufficient to atone for even the absence of any work of that great architect, who, without mental exertion, has blown by steam a couple of huge bubbles at South Kensington, and enshrined himself conspicuously therein, like a fly in amber, leading all the world to wonder how he got there.

We can, on the present occasion, only notice the more prominent works hung upon the walls, and we must defer a detailed account even of them until we have an opportunity of bestowing sufficient attention to them.

We cannot help remarking upon the largely increased number of photographs which are this season exhibited, and which would have shown prominently forth from amidst any collections of architectural drawings. Messrs. Green and De Ville send no less than a dozen frames, mostly competition drawings. The Italian designs have generally been honoured with a premium of some kind, and they undoubtedly deserve it; but we cannot understand why these architects, who are so proficient in one style, will go out of their way to produce such a coarse piece of Gothic work as the Unitarian chapel at Hampstead (29). Their several designs for town-halls, and for the Palais de Justice, at Brussels, are better than anything we have ever before seen from them. The interior of the concert room at the Hartley Institute is a lovely piece of decoration.

Mr. C. Foster Hayward is likewise this year a most valuable contributor, and shows a marked advance upon anything which he has previously exhibited. His shops at Halesdend, Essex (9), are exquisitely designed, and his little Swiss chalet erected at Lendon-park, Colchester, is worthy of the three views given of it.

Mr. R. Phene Spiers, who, we believe, has only on one previous occasion exhibited here, sends the drawings for a villa, which procured him a premium from the Institute. They show a vast amount of study, and the careful training of the draughtsman which he has evidently been educated. Every form is chaste and elegant; the ornament is tenderly applied, and blends happily with the moulded stone, giving it richness without coarseness, and varying the treatment without in the slightest degree disturbing the unity of the composition. The interior is treated in the same artistic manner. The same gentleman exhibits three sketches in one frame; that of "The Church of Chrocoensis" in the centre does not please us much, but the two spires of Chartres Cathedral are brilliantly represented.

We have several examples of the fine foreign Gothic work of Mr. E. W. Godwin;—that shown in the Town-hall at Northampton, of which we, some two months ago, gave a new and especially good. That for the Swansea Public Hall and Market is injured by the piers, which seem to compress the upper windows. Another architect, Mr. R. W. Edin, has with equal success taken up with this foreign Gothic. His design for the New Town Hall at Ipswich is a favourable specimen of his manner of dealing with it. The same architect has designed a chimney-piece for the Poet Laureate, and another for Mr. T. Woodcock, of J. H. Jones and Sons, of Glasgow, and another for Mr. J. H. Smith has an amusing design for an octagon vestibule (86). Mr. Pope gives us a photograph of Archbishop Holgate's Hospital, York-shire, of which we had the original etching two years ago.

The architect of the successful design for "The Godolphin School, Hammersmith," has at length exhibited it. We have already seen the unsuccessful design.

Of the external architecture of the buildings of a high order. This, we presume, has obtained its success by some excellent

internal decoration, which the common-place brick walls unfortunately hide. The merit of such qualities must have been very great to carry the elevation through even a competition committee. The fact of its doing so is evidence of the excellence, which no one has an opportunity of pirating, because it is only implied, and is not unfolded to us. We must congratulate the architect on his good taste in sacrificing in execution the ugly, although original, tower, which, in the drawing, surmounts the building.

One of the best drawings in the room is the interior view of Mr. W. Wilkinson's "Design for the Agricultural Hall at Islington," and the largest is that by Mr. Gibbs. They both have attractions, but of a very different kind. The very elaborate sketches which Mr. Vaughan has hitherto produced are this year planned from Germany, Italy, and Sicily; but we infinitely prefer the less laboured and more spirited sketches of Mr. Beazley (61).

The collection of building materials shows evidence of the same antagonistic influence as does that of the drawings. Messrs. Hart and Son do not exhibit at all, and Messrs. Minton are absent. The part of honour in the Cross Gallery is occupied by a large model of Sedley's Patent Iron Bridge, which combines the uses and advantages of the Tubular, Girder, and Suspension principles. Messrs. Cox and Son have furnished their recess in their customary manner with excellent examples of wood carving, but we must defer to another opportunity descriptions of it, as well as of other works, which we are this week unable even to mention.

#### THE "DICTIONARY OF ARCHITECTURE."

MR. ARTHUR CATES, the hon. secretary to the Architectural Publication Society, writes, with reference to the notice of the Society's Dictionary in our last Number:—

"This Society is much indebted to you for the manner in which you last week placed before the profession its objects and position, and with reference to one portion of your remarks I would beg leave to state that the best manner of increasing the number of subscribers, and, at the same time, of reducing to new comers the weight of the subscriptions accrued for past years, has long been an object of solicitude to the Committee, and the course adopted—to permit each new subscriber, who may so desire, to spread the payment of the back years' subscriptions over any reasonable period he may wish—has received general approval, and is working very satisfactorily; a considerable number of new subscribers having been recently enrolled under these conditions.

"The success of this Society is thus most, in a great degree, dependent on the active co-operation of its members in making its existence and works well known within their own circles, and, from the results which have recently followed the exertions of one or two of our members, I am confident that very much advantage would result if all could be induced to follow in such a course—not limiting their suggestions to their professional friends, but bringing "the Dictionary" under the notice of that very numerous and influential class, in whose libraries such a work would be of the greatest value; and I shall always be happy to consider any suggestion on the subject, and to communicate to all inquirers every information respecting the Society.

"One leading object of the Committee has been so to conduct the publications as to secure the maintenance of the market value of the work, and to guard against any such depreciation in price as now too often occurs to the prejudice of original subscribers. In this I have every reason to believe that they have entirely succeeded; and as they now stand pledged not to sell any portion of the work at less than the subscription price, and as the stock of past years' works is limited, it appears to me very desirable that the profession should be made to understand that there is not the least probability that by waiting they may be able to purchase the work at any reduction on the original price. And, further, that all who desire to possess it should not longer delay placing their names on the list of members in order that they may secure a copy."

#### DARTMOUTH IMPROVEMENT COMPETITION.

WE learn that the Dartmouth Town Council have, in relation to the plans for the improvement of their town, awarded the first premium to Mr. John Bell, engineer of the Dartmouth and Torbay Railway, and the second to Messrs. Hickson and Isaac, architects, of Northgate-street, Bath.

#### PAINSWICK, GLOUCESTERSHIRE, CEMETERY COMPETITION.

WE understand that, designs having been submitted in competition for the proposed new cemetery, those by Messrs. Elmslie, Franey, and Haddon, architects, of Malvern, London, and Hereford, were selected as being the most suitable.

The chapels, with porch and robing-room to each, are in the Decorated style, and are to be built of local stone; the roofs are to be covered with Staffordshire tiles. Between the chapels is a tower and spire.

The lodge, entrance gates, boundary walls, and palisading are to be of appropriate character.

The grounds are about 4 acres in extent, 2½ acres of which are allotted to the consecrated portion, and 1½ to the unconsecrated portion.

Tenders for the whole of the works have been received, and that submitted by Mr. Henry Birchall, of Birmingham, is accepted. The works are to be commenced immediately.

## EXHIBITION OF THE SOCIETY OF BRITISH ARTISTS.

THE present exhibition differs little from some of the more recent of its 38 annual predecessors, still increasing in our memory. The landscapes are as numerous, and few of them better than formerly. The figure subjects are, generally speaking, less ambitious than we have seen on some late occasions, and the easel painters have not thrown into shade the merits of their more early labours. The largest picture in the exhibition is by Mr. Salter, and represents "King Charles II. Presenting to his Queen, Catherine of Braganza, the celebrated medals he presented to her Majesty." Such a picture is entirely above the powers of this artist, and we confess to being deficient in both patience and forbearance to criticise such pretensions with decorum, and shall, therefore, remain silent. "The Relief of Lucknow by Generals Havelock and Outram," by Mr. G. Fogg, is a picture of some interest, which we have seen somewhere before; but we think not as we thought then, that art is so ostentatiously displayed in the construction of the central group, and deprives the incidents of that probability and naturalness which would give them reality and interest. We do not object to see the rules of art employed, but how much of what may be made apparent to the casual observer must depend entirely on the nature of the subject. The defence of Lucknow is beyond all doubt, heroic in the extreme; but the scene after that noble defence was naturally a manifestation of strong but ordinary human feeling; any show of affectation in any of the actors at that moment would have been most offensive, and art-affectation in representing the event is equally out of place. It is such displays of rivalry that enable us to refuse to employ the word "composition" in derision of the sound principles of art.

The gems of the present exhibition are few. In the figure department, "The Return of the Lost Sailor" will become the picture of the year in these rooms. It is remarkable for the extremely energetic attitude of the wife, which is both skilfully and legitimately accounted for by a widow's cap on the ground. The only Valaisian in it, is that it implies a little more presence of mind on her part than is consistent with her astonishment and frantic joy. The artist would probably have acted more wisely had he placed the cap nearer to her, as if it had fallen from her head, when she, instead of rushing into her husband's arms, threw herself down on her knees, clasped her hands, looking up to heaven, her eyes filled with tears, and thanked for his being alive more than for pleasure at his return. At present this piece of millinery forms too obtrusive a feature by being placed so prominently in the foreground. The spectator should have had to find it more than having it thus forced upon his attention. That kind of hidden information is always advised, because the discovery becomes so far identified with the artist, and takes, consequently, more interest in the picture. The husband's manner is, very properly, mild, soothing, and affectionate, because he is not influenced so powerfully as his wife, for, as she believed him dead, his arrival is greatly more surprising to her than she being where he expected to find her is to him. We are not quite certain that the presence of this child increases the pathos of the scene. If the subject were not so forcibly represented as it is, the elaborate style of execution would spoil it. All the accessories are so highly finished as to attract attention on their own account, and we regret to see that an artist capable of depicting human passion so powerfully, should, perhaps in obedience to the fashion of the day, render himself liable to the charge of "mummy-painting." His satire is far from being the travel-worn and picturesque figure described by the lines quoted in the catalogue. The painter of this otherwise excellent subject is Mr. T. Roberts, whom we are, unfortunately, obliged to censure as well as praise; but the latter relates to his success in the highest branch of art, and the former refers to the secondary considerations in a picture.

The landscape, which, according to our present impression, deserves especial notice, is a view at "Stanlake Bridge," by Mr. W. W. Gosling. It has the rare merit of illustrating the quotation that follows its title in the catalogue, for it is a peaceful vale seen beneath the summer's sun, whose rays are playing fitfully between the stems and the branches of the trees overhanging the gleaming brook in the middle distance. In the foreground shows that the stream becomes a roaring flood in the winter, carrying all before it. The whole of the middle and extreme distance is treated with complete unity of effect. There is a pleasing light and leafy character in the management of the trees. The water is agreeably placid and unimportant. The lights and appearing areas are so arranged as to carry the eye easily through the subject. There is no doubt that the spotlessness in the foreground tends greatly to the pleasing sense of repose pervading the rest of the picture, but we think it, by excess, shows the painter to have been over anxious on the point, and we would suggest monotony is better suited to large masses, and should be neutral in tint; and the numerous small pieces of stone in the foreground, too positive, both in colour and form, to do all the good the artist intended, when he introduced them. However, we think, taking this picture as a whole, it has the advantage over its neighbour, by Mr. Vicat Cole, of a similar subject, being entitled "The Brook." This latter is certainly a very pleasing distance of well its landscape seen between the opening of the field, but his foreground is, in being so bold, and uninteresting than in Mr. Gosling's picture. We regret that Mr. Vicat Cole should have quitted his open corn-land scenery, in which he was so successful.

On the contrary, we have to congratulate Mr. G. Syer on the change he finds in his treatment of a coast scene "near Swaney." Not because it displays more knowledge of art, as regards scenery, than we have seen in him formerly, but because it is altogether a more generally pleasing effect

of light and atmosphere than this artist usually exhibits, and is, therefore, more likely to attract to his talent that admiration from the public which they have always deserved. We have selected this picture as one of the gems of the exhibition, not only for what we have just stated, but because, when compared with the rest, it presents, besides its pleasing tone and charming atmosphere, a sense of unity and completeness more than usually satisfactory.

The "Way-side—Scene in Surrey," by Mr. F. W. Hume, is another picture we must stop, on account of the painter having entirely succeeded in accomplishing his intention, and think equally so in communicating it to others. The subject is a simple one, but a brilliant effect of mid-day sun was the charm which, no doubt, induced the painting of the scene, and the result is perfect success. There is a kind of hard melted by the sun, and the strongly marked objects in the foreground of this picture, which is rather repulsive at first sight, and we think more than enough so, to produce a contrast to the delicacy of the distance; but it belongs to the realistic school of art, and there seems to be few artists who appear to have the moral courage to neglect it in some part of a picture.

We must place also among the gems of the exhibition a picture by Mr. J. T. Peel, entitled "The Picture," because elaborate making out of parts, strong colouring, and attractive lights are so much in fashion, that it is quite delightful to meet with a painting modestly subdued in all those respects, and in which the faces are not painted "flesh colour" to the very roots of the hair, like masks, and with features as immovable as the faces of the two young girls in question have all the grace of nature, and their features have apparently all the flexibility required. They are, therefore, playfully smiling without fixed grimace—a happy effect obtained by the absence of all unnecessary drawing in hard lines of the separate forms. There is great breadth of middle tint relieved by lights, both soft and partial, and is so subdued as not to catch the eye. The entire attention of the spectator is consequently allowed to rest on the most interesting part of the subject—namely, the smiling countenances of the two young girls looking at a print which evidently affords them much amusement.

From among Mr. A. Woolmer's numerous contributions, we select "The Musician's Dream" as a very poetical effect of intelligently playing on the elegant form of a sleeping female. How the quotation from Shakespeare applies—"Oh, then, I see Queen Mab hath been with you"—we failed to discover. The inserting of quotations in catalogues seems to be very generally adopted by artists for the sake of giving space and importance to their own names. However, the picture may be admired for its elegant tone and complete effect. We think "The Fortune Teller," by Mr. Cobbett, in the same room, will also be admired for the indolent attitude of the girl telling her own fortune, and the doubtful expression in her face. "Beat my Neighbour" is more appropriately high in finish than, as far as we recollect, any other picture in the exhibition. The subject is unimportant and the style is small, and the artist, who is a Quaker, is not so far from admitting of a smooth style of manipulation, the prevalence of subdued and cool monotone, relieved by variety of tint, without disturbing the breadth of the general effect, is equally appropriate and skilfully managed. Better than all, which the finish enhances the value of the picture by the taste and care with which it is executed, it does not in the slightest degree interfere with the expression in the faces or the fun of the subject. The boy has evidently the winning card, and laughs at the puzzled look of his elder companion as to which of his last two cards he will play, and the subject becomes still more laughable from the fact that his thoughts and anxiety are clearly useless.

Without pretending that "Cinderella flying from the Ball, changing as she runs, into a mouse," and deserving especial notice on that account, we think there is too much merit in attempting a subject so difficult, and industry displayed in its execution, to be passed over in silence. She has stayed until the last moment allowed by the fairy, and her rich jewels are falling off, and her fine costume is changing as her ordinary dress, as she quits the ball-room, and is painted in picture looks, as far as the principal figure is concerned, unfinished. To make the subject intelligible as far as possible, the fairy, her coach, and sprites, or something illustrative, supposed to be invisible to all but Cinderella herself, should be introduced. This is the only means the artist has, under such circumstances, of showing what is passing in the mind and influencing the action of all dependent on his composition. If an authority be required for such a mode of treatment, we will quote a highly classical one—Pausanias—who, when he represented Coriolanus in the Volscian camp, with his family and a whole train of Roman matrons kneeling in supplication, in order to show the ideas passing in the mind of the hero, introduced a female warrior, as the tutelary genius of Rome, and, as he quitted the scene, to turn him into compliance, warning him to yield to the destiny of his country. Unless the painter has the genius to invent such an illustration of his subject, and the moral courage to provoke adverse criticism—a bold innovation in these eminently practical and coldly matter-of-fact days—such a subject as "Cinderella flying from the Ball," changing as she quits it, should not be painted.

A young aspirant for success in the person of Miss Edwards, sends a pretty little picture of "Rosalind and Cecilia"—"As You Like It." The moment chosen we suppose to be when Rosalind exclaims "Oh! how weary my spirits are," or to that effect. There are pleasing character and very delicate painting in this small work, but we think it scarcely possible to make it clear for whom the figures are intended. Rosalind Touchstone is a good time in past years, and could have got over the difficulty by writing on one of the trees "This is the forest of Arden."



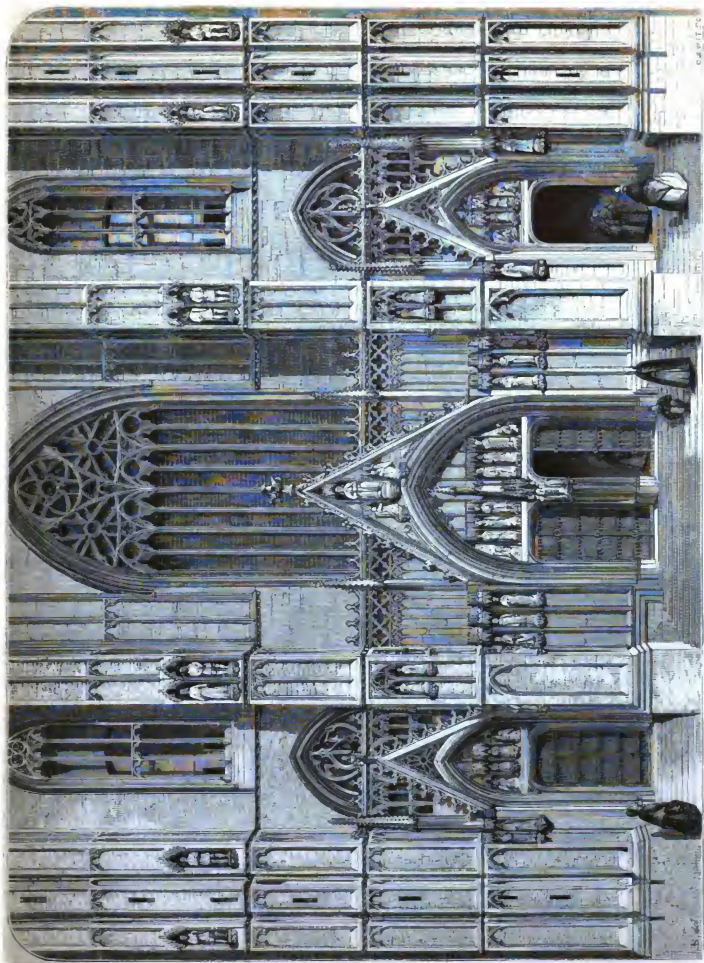












PART OF THE WEST FRONT OF ST. GUDULE'S, BRUSSELS.

apartments had been to bring down the floor. We must not omit to add, that while the old glass from the great east window has been removed, without thought it would appear, a foolish seventeenth-century transparency in glass, standing in the eastern light of the (chancel) aisle, has been religiously preserved. The latter still now gazing on at the cathedral, are "quite incorrect, being one tissue of falsehoods from beginning to end."

We may give our own account of the restoration before long.

### ON BUILDING STONES.

THE following is the substance of a paper read before the Civil and Mechanical Engineers' Society, on the 13th inst., by Mr. J. B. WALTON, V.P.:

Arenaceous or siliceous rocks are generally composed of grains of sand, which are rounded as if by the action of running water, and cemented together by some calcareous or siliceous concretion. These rocks, which are termed sandstones, are sometimes found with the grains of sand extremely coarse, and, again, delicately fine. This coarseness or fineness is, however, of trifling importance in comparison with the nature of the materials by which the particles are cemented. Many sandstones have their parts so loosely united as to be totally unfit for building purposes, this being the nature of the rock which underlies the town and castle of Nottingham. Purely siliceous sandstones are admirably adapted to withstand the influence of water, and, therefore, there is an admixture of silica with other materials, great skill is required to select a durable building stone.

Argillaceous rocks scarcely admit of a general description, but most of them emit a peculiar earthy odour when breathed upon, and consist of silica and alumina, with small proportions of iron and magnesia.

Cretaceous rocks, or limstones, are composed of lime and carbonic acid. Many of these stones consist of fragments of shells and corals, which are united by means of a calcareous cement. These belong to the tertiary group and are found to consist of small egg-like grains, each of which has a particle of sand for a nucleus, around which are formed concentric layers of calcareous matter.

Limestones and sandstones of the same specific gravity are found to exhibit the following relations:—As regards the resistance to a compressive force, the sandstone has a superiority over the limestone nearly in the proportion of three to two; the absorbing power of the sandstone is less than that of the limestone, as the former absorbs 407 of its bulk, while the latter absorbs 114. The sandstone will be composed of silica with a small percentage of carbonic acid. The limestone will contain chiefly of carbonate of lime with small quantities of silica and magnesia.

The author then described the building materials of the Pliocene, Eocene, and Wealden deposits, reviewing more particularly the Kentish rag of the lower greensand series, and the Sussex and Purbeck marbles of the Wealden formation. The latter were stated to have been much employed in the embellishment of our ecclesiastical edifices in the thirteenth century.

The oolitic rocks were next described, and full particulars were given of the Portland, Anston, Bath, and Ketton limestones. It was remarked as a singular fact, that with reference to the oolitic rocks, the top beds are invariably the hardest, while the lower are the softest. Portland stone was stated to be far superior to the Bath and other stones of this formation, and also to be decidedly the best material to withstand the trying influences of the London atmosphere. The average weight of Portland stone is 1554 lbs. to a cubic foot, its specific gravity 2.145, and its price £10. The analysis of this stone as given by the Commissioners in their report of 1838 is as follows:—

Silica .....	1.20
Carbonate of lime .....	50.76
Carbonate of magnesia .....	2.80
Iron and alumina .....	.50
Water and loss .....	.194
	100.00

The analysis of the Anston, Bath, and Ketton stones, according to the same authorities, is as follows:—

	Anston.	Bath.	Ketton.
Carbonate of lime .....	52.50	54.32	52.17
Carbonate of magnesia .....	2.50	2.50	4.10
Iron and alumina .....	.80	1.20	.92
Water and loss .....	2.71	1.78	1.01
	100.00	100.00	100.00

The oolitic stones of Oxford and Northampton were next referred to, particular notice being directed to the yellow and rusty appearance of the buildings in these vicinities, and to the lamentable symptoms of decay which many of them exhibit.

The Permian or magnesian limestone series was then next described, and particulars were given with reference to the selection from these deposits of the material for the construction of the New Houses of Parliament. The Commissioners first recommended the Bolsover quarries, from having observed that the Norman porch of Southwell Minster, which was supposed to have been excavated in this stone, was as free from decay as when it was erected eight hundred years back. These quarries were, however, abandoned in consequence of the stone being so much in bed and difficult to remove from the earth. The Anston beds, in Yorkshire, belonging to the Daker Lench strata about five miles from Bolsover, were then examined and found to fulfil the requirements of the Commissioners, so this stone was adopted, and delivered in London at the rate of 300,000 cubic feet per annum for several years.

Numbers of buildings have been erected in this material, both in London and the country, and instances were given in which the stonework is already suffering much from decay.

The analysis of the Anston stone is as follows:—

Carbonate of lime .....	54.29
Carbonate of magnesia .....	42.07
Protosilicate of iron .....	1.48
Protosilicate of iron .....	0.96
Silica .....	0.41
Water .....	0.24

The magnesian limestone of this district were stated to be very numerous, and

to vary but slightly in their chemical constituents; that quarried at Mansfield Woodhouse, in Nottinghamshire, was described as being more durable than the Anston stone, but so expensive to work that it is but seldom employed. It was used by Mr. Gilbert Scott in the construction of the Martyrs' Memorial at Oxford, in 1860, and is now used to stand resistance to a pressure of 100,000 lbs. to a cubic foot, which is nearly the amount safely sustained by Portland. The piers of the railway bridge at Pinnoke and Fallowham are constructed with this material.

The Cragloeth and Bramley Fall sandstones of the carboniferous system were described at some length, and were stated to be admirably adapted to resist a great compressive force, and to withstand the varied influences of weather, wind, and water. The average weight of a cubic foot of Cragloeth is 146, and of Bramley Fall 142 lb. The latter is capable of withstanding a pressure of 100,000 lbs. to a cubic foot, which is nearly the amount safely sustained by Portland. The piers of the railway bridge at Pinnoke and Fallowham are constructed with this material.

The Silurian, Cambrian, and Devonian systems all furnish excellent materials for building, and were described at some length by the author.

A review was then given of the igneous or unstratified rocks, particular mention being made of granite, syenite, and gneiss. The decay of granite was briefly noticed, and accounts were given of the strength of several varieties of this material, including the Aberdeen, Peterborough, and Cornish granites. The Aberdeen granite is considerably lighter than that quarried in Cornwall, but possesses nearly double the resisting power to a compressive strain.

Particulars were given with reference to the expansion of stones, and an account of recent experiments recorded in the "Transactions of the Royal Academy of Edinburgh" was related, from which it appeared that the building stones in common use expanded nearly in the same proportion as cast iron.

The author concluded his paper with some observations on the decay of stone, and made suggestions as to the decomposition of the materials employed in the construction of the Houses of Parliament. A analysis of the stones taken before the committee appeared to inquire into the decay was given. It appeared, from the evidence of Mr. C. H. Smith, one of the commissioners of 1838, that the stone was fast undergoing deterioration from the action of the sea water, and was left to persons who had little knowledge of the subject. The decay was stated to be most apparent in all damp and sheltered situations, the stone being in good preservation in many places where it was exposed to the full action of wind and weather.

### PART OF WEST FRONT, ST. GUDULE, BRUSSELS.

WE gave, at page 91 of our present volume, a view of the south entrance with an engraving of a portion of the western facade, showing the principal entrance on that side. To the notes accompanying our former illustration we may add that the west window dates 1528, that the church was restored to some extent in 1843, while more extensive restorations took place in 1859. In the year 1859, the architect, M. Verbruggen, representing Adam and Eve driven out of Paradise, is well known; it is said to have been executed for the Jesuits at Louvain, and has been presented to St. Gudule by Marié Thérèse.

ANCIENT INDIAN TOMBS.—On the 18th inst. Mr. W. Bollaert read a paper before the Ethnological Society. "On the Ancient Indian Tombs of Chiriqui in Veragua, a Province of Darien." Columbus, in his last voyage, discovered the east coast of a region on the mainland of America, called Veragua. The burial-places of the aborigines of this district were by accident, in 1850, found to be treasures of golden ornaments. They contain also antique baked pottery of rude but chaste and not inelegant form. Everywhere throughout the country their tombs are found, and monuments and columns covered with figures are met with. The Chiriqui tombs were opened in great numbers in the year referred to (1850), when, at one time, no less than 1,500 persons were engaged in digging and ransacking the graves at Bughilla—a plain of a mile square, surrounded by high mountains. Two hundred and fifty pounds' weight of gold was obtained in less than three months, of the estimated value of £12,500. In the centre of the plain is a mound of stones four or five yards high, and all round it are the ruins of a deposit, or graves, containing gold. Outside of these are other graves, the "huacas de sepulchros," which are of a poorer sort, and contain none of the precious ornaments. The "huacas de sepulchros" are formed with stones laid on the surface of the earth in circles, conical, or in the shape of a cross, or circles, rings with four equal-distant large blocks, and in other definite forms. Many other rich tombs have since been elsewhere discovered, and the whole of this portion of the isthmus appears to be a vast cemetery. Amongst the gold objects are beads, pendants, and other new world types, such as guacamacas, or "sacred parrot," and figures of hideous, obscene, or grotesque forms. The tombs and their contents the author considers to be about seven or eight hundred years old, and to have been the work of the Dacothas—a race he conjectures to have been derived from the Cheroctean nation of Nicaragua. Such monuments as the "Piedra Pintal"—a great stone 50 feet long and 15 feet high, near Caldera, covered with representations of the sun, human heads, scorpions, and other figures, are believed to be of much older date, and carved by an older people than the Dacothas.

THE EXCAVATIONS AT CYRÈNE.—Mr. VAUX read a paper before the Royal Society of Literature on the 12th inst., on the Excavations of Cyrène, in which he gave an account of the researches which have been recently initiated in that place by Lieut. Smith, R.E., an officer who was associated with Mr. Newton, when he was engaged in the excavations at Hali-car-nassus. Lieut. Smith spent several months during the winter and spring of 1861 at Cyrène, and was fortunate enough to make a series of discoveries of the most important kind. The national collection is a statue of Apollo Chitharodas, which is considered to be a genuine Greek work of the Macedonian or post-Alexandrian age; or a copy of a first-class work of that period, made during the Augustan times. Besides this, nearly 200 other objects of great interest have been discovered, such as statues of Diana, Bacchus, Encephalus, Venus, &c., some busts of Roman Emperors, such as Antoninus Pius, Aurelius, Faustina, Jan., and a large number of statues, some very small and perfectly preserved, and some curious bas-reliefs.



at West Ham, with an area of 4,730 acres, principally of flat water-logged marsh land, the outlet sewer is of brick, 5 feet 3 inches by 3 feet 6 inches, having a cast-iron invert laid level, and at low-water level of spring tides.

At the other end of the drainage area, the outlet sewers do not accord with the table stated to be the case, but are of brick, 4 feet 6 inches by 3 feet 6 inches, and are not provided with a fall, and yet the sewer of the form required to be done. Surface water and heavy falls of rain pass, as previously, over the surface, but there is not a duplicate system, nor do I advocate such.

At Carlisle the outlet is frequently blocked by land floods. At Lancaster, daily, by tides; and at West Ham pumping is resorted to.\*

SUBJECTS FOR MEDALS AND PRIZES OF THE ROYAL  
INSTITUTE OF BRITISH ARCHITECTS FOR 1863.

At a Special General Meeting of the Institute, the following recommendation of the Council, with reference to the Royal Medal for the year 1862, was read and agreed to:—"Her Majesty having been pleased to grant her gracious permission that the Royal Medal be conferred on such distinguished architect or man of science, of any country, as may have designed or executed any building of high merit, or produced a work tending to promote or facilitate the knowledge of architecture, or made any discovery or produce a scientific instrument, the Council do proceed, in January, 1863, to take into consideration the appropriation of the Royal Medal."

The following recommendations of the Council were also read and agreed to:—*Institute Medal.*—That the Silver Medal of the Institute be awarded to the author of the most judicious and complete sketch of the subject. 1st. The application of coloured bricks to terra-cotta to modern architecture. 2nd. The application of timber work to iron, constructively and artistically, from the year 1400 to the present time. 3rd. (In the stained glass of the twelfth and thirteenth centuries.) The application of the mosaic to the wall and to the floor. 4th. The Silver Medal of the Institute, with Five Guineas, be also awarded for the best illustrations, geometrically drawn from actual measurement (with dimensions figured, both on the drawings showing the general arrangements, and on the drawings showing the details of the work) of any of the most important or other Medieval building in the United Kingdom, hitherto unpublished in that manner. The Council suggest the following as being subjects worthy of illustration:—Cambridge, usually called the Great Bridge, consistent with the subject.—Cambridge, the new way at Ely, one of the bridges of the county, Huntingdonshire.—One of the bridges of the county. Herefordshire.—The Abbey d'Or in the Golden Valley. Herefordshire.—St. Alban's Eastern Chapel, Huntingdonshire.—The Chapter House, Southwell; west front of Newark Abbey, Somersetshire.—St. Stephen's Chapel, Gloucester; King Ina's Palace, Shropshire.—Lillehall Abbey, Staffordshire.—Croxden Abbey, Shropshire.—Bath Abbey, Somersetshire.—York Minster, Yorkshire.—The Priory of St. Andrew, Shropshire.—Stow Castle, Scotland.—Dryburgh, Kelso, or Melrose Abbey; Monastery at Ina, Elgin Cathedral, Ireland.—Cashel Cathedral; Jerpoint Abbey. The Council suggest that the drawings be executed on a scale of  $\frac{1}{4}$  inch to the foot, with sections to be at a larger scale. The elevations to be in line only, and the plans and sections to be tinted in sepia only. Perspective drawings may be also sent, and may be either hatched in, or tinted in sepia, and the drawings to be executed in ink, and to be prepared in accordance with the mode of construction and material used. It is strongly recommended that the rough drawings be plotted on the spot, and sent up to the Institute with the final drawings. These medals are open to all members of the profession, with out limitation of time.

[illegible]

*Prize offered by the President, Mr. Tite, M.P., F.R.S.*—That a Prize of Ten Guineas be awarded to the author of the best set of architectural drawings executed in the best manner, and in the Italian style of architecture, for public buildings adapted to modern wants, e.g., churches, town halls, railway stations, public offices, &c., in England. The drawings to be in colour and shaded, and they may be drawn either in perspective, or geometrically. If in perspective, they are to be of the size which a sheet of Imperial paper will admit. If drawn geometrically, they must be to the scale of  $\frac{1}{4}$  of an inch to the foot. A plan

tinted in sepia, of the principal floor of the building, drawn to a scale of  $\frac{1}{4}$  of an inch to the foot, is to accompany each set of sketches. The competition is open to all Associates and Students of the Institute. Each set is to consist of not less than two, and not more than three, drawings.

*Sir Francis E. Gifford's Prize*.—That a Prize of Ten Guineas, offered to the author of the best design for a building or buildings, suitable for the residence of Sir Francis E. Scott, Bart., for the term of five years, he awarded to the architect who submitted the most judicious plan, adapted to the site devoted to civic or domestic purposes, in accordance, throughout, with modern requirements, and designed in harmony with the style of architecture of the fourteenth or fifteenth century. The drawings may be either outlined, colored, or tinted, as the artist may prefer; but they must be drawn from the perspective, they are to be of the size of a sheet of imperial paper. If geometrically, to be to the scale of 1 inch to each to the foot. In all cases to be executed by hand, and to show clearly the principal features of the building, and details of some part of the furniture, fittings, etc. The designs are to be sent in drawn to scale and finished in any manner chosen by the candidate. The competition is open to all students in architecture under the

**Students' Prize.**—(For students of the Institute only.)—That the subject of the design for the Students' Prize in Books for the year 1862 be "a Drinking Fountain." The drawings to be executed to the scale of  $\frac{1}{4}$  of an inch to the foot; the plans and sections to be tinted in sepia, and the elevation to be in outline, etched or tinted in sepia. Perspective drawings are not necessarily required, but may be sent, and be in outline etched, or tinted in sepia.

**Students' Monthly Prizes.**—(By students of the Institute only.)—The following subjects have been selected for the sketches for 1902, to be taken as early as possible in the order given, attention being requested to their being done in pencil on a separate sheet of paper, and to the following details of subjects:—A spanrel filled with foliage; ditto with open tracery; in niche with pedestal; ceiling; stone diaper; corbel; cross; mouldings (with actions); scroll-work in stone or plaster; scroll-work in iron or wood; capital, moulded, seen from front, side and back; scroll-work in stone or wood; scroll-work in stone, seen from ends, or other examples in relief. Any student may send a study or studies from the human figure in place of either any of the above subjects, provided only that the said studies do not exceed in number one-half of his architectural subjects. The sketches should be done in pencil, and may be in perspective or will admit. They may be in outline only, or etched in coloured, or tinted.

*Directions for Competitors.*—Each copy and set of drawings is to be distinguished only by a motto, without the name of the author attached; but it is to be accompanied by a letter, sealed with a blank seal, and having on the outside the same motto as that attached to the essay or drawings, and enclosing his name, with an address to which a communication may be sent. The packet directed, "To the Honorary Secretaries of the Royal Institute of British Architects," and marked *Essay for Medal* (or *Drawings for Medal*) (Motto), is to be delivered at the rooms of the Institute on or before the 31st of December.

1902. Only the envelopes containing the names of the successful competitors will be opened. Should none of the essays, drawings, subjects, or buildings be deemed worthy of a premium, the Institute will reserve the right to award the distinction of the premium offered in each case, they reserve to themselves the right of awarding such other premium in lieu thereof as they may deem proper. In the event of a tie between two or more competitors, the one to be a candidate who has been successful on a former occasion, they reserve the power of adjudging such other reward as they may think fit, and of awarding such other premium in lieu thereof as they may deem proper. The medals of the Institute medals are awarded, become the property of the Institute, to be published by them if thought fit. In case the essays are not published within the time specified, the Institute will reserve the right to publish them at a later date. The drawings for the Suanne Medallion will be returned to all the candidates, on application; to the unsuccessful after the adjudication, and to the successful after the award of the Suanne Medallion.

## PROPOSED REMOVAL OF THE SOANE MUSEUM TO SOUTH KENSINGTON.

ON a motion, in the House of Lords, the Duke of Buckingham, that Sir John Soane's Museum Bill be read a second time, Lord Overstone observed that the Bill was one which required the attention of the House. Its object was to enable the trustees of the museum to send a portion of its contents to the International Exhibition, and for a time to denude itself of those treasures. A large number of the lords present were in favour of the Bill, and spoke for them. He, therefore, could not see why it should be limited to one museum in particular if the principle were at all one of which they could approve. At present the Soane Museum could be seen without payment, but he need not tell their lordships that that would not be the case when removed to the Exhibition. He should not offer any opposition to the Bill, but it required serious consideration.

Earl Granville said he could well understand why the National Gallery had refused to lend its pictures; but the same principle did not apply in both cases. Last year only 2,000 persons visited the *Sonne* Museum; but the number who would this year visit the picture gallery at South Kensington might be expected to amount to a couple of millions. He trusted that their lordships would assent to the Bill.

Really, it is to be hoped that the threatened removal will not be carried into effect; there can be no reason whatever, as we have previously shown, why all that we have of moveable art in London should be destined, sooner or later, to find its way to South Kensington. We wonder if the larger number of persons who, undoubtedly, will visit the collection if it really is taken to the Exhibition building, will hereafter be given as a potent reason for the final removal of the Museum?

BENSON'S WATCHES AND CLOCKS.—"Perfection of mechanism,"—*Morning Post*. Gold watches, 5 to 100 guineas; silver watches, 2 to 50 guineas. Benson's new Illustrated Pamphlet, free for two stamps, descriptive of every construction of watch, enable persons in any part of the world to select with the greatest certainty the watch best adapted to

\* To be continued.















## THE PUGIN COLLECTION AT THE ARCHITECTURAL EXHIBITION.



So we mentioned incidentally last week, nearly the whole of the West Gallery, at the Architectural Exhibition is occupied by a collection of the unpublished sketches of the late Augustus Welby Pugin. The trifling exceptions refer only to a few drawings of buildings designed by his son, which, we venture to think, would have been more fittingly hung in the adjoining galleries amongst the works of other living architects. They have no merit in common with the handiwork of the architect to whom the gallery is dedicated than have the works of others of the same collection, and valuable as they are as architectural designs,

their position, tacked to the great objects of attraction, smacks too much of intrusiveness. Mr. Edward W. Pugin's designs really need no borrowed light; they should not, therefore, be so placed as to kindle a suspicion that they required it. Their place should have been amid rivals; in the bustle and the crowd of living men—to carry forward by their own merit the colours, honoured by the life-devotion of an illustrious sire, not ostentatiously attached to the silent trophies of his long, but now ended, struggle. Moreover, if the object were to render them conspicuous, no position could be more ill-chosen for them. After examining, as they deserve to be examined, nearly a thousand drawings by the elder Pugin, we are in no mood to dwell attentively upon the designs of the younger. The reflections which this gorgeous illustration of Pugin's industrious and useful life occasion, and the interest which the faithful representations of world-famous architectural piles kindle in us, is continued so long as the same dexterous hand which sketched them introduces us with the same firm but not too large and too pretentious forms; but it cannot be sustained to another's work. Having fed for hours upon Chartres and Amiens, Hohen and Florence, Ereux, Coutances, and Bayeux, all drawn lovingly by the man who, in his day, perhaps, alone fully appreciated them, we cannot be blamed if we pass by untouched the Beauchamp Almshouses, in the County of Warwick. We have no fault to find with the design or the execution of the latter, but like every one who enters that nobly-lined gallery, we come to ponder over the memorials of the father, and do not expect to find them interlarded with extraneous matter by the son. As in Mr. Ferrey's book, the "memorials" are not altogether what they might have been, either in quantity or arrangement, and the "appendix" is quite superfluous.

Immense as is the labour visible in this gallery, we cannot but recall the fact that it contains but a fraction of Pugin's work. There are no drawings here which have been already published; no record of his many designs, decorative as well as architectural; even of St. George's, Southwark, we recognised but one drawing—the chancel screen. A bird's-eye view, with smaller views in the illuminated border, is the only illustration of St. Augustine's, Ramsgate; and a single frame, similarly filled, gives us an equally inadequate notion of the many hours of toil which Pugin devoted to Bilton Grange. Of the assistance which Pugin rendered to Sir Charles Barry in the decorations of the Houses of Parliament, this exhibition tells us nothing, and it is as silent also upon many other similarly important works of the hard-working man whose services it seeks to commemorate. We cannot even say that it contains an epitome of his labours. We may, indeed, trace the growth of his mind from almost its earliest shoot though brilliant study into its autumn ripeness, but there are evident gaps which a more complete collection might easily, we fancy, have supplied. We require to know all about Pugin before we enter this gallery, and, in order to appreciate what we see here, to recollect what he has done, of which there is here no indication. When we remember, for instance, what with materially skill he designed metal work, the sketches made in the Ancient Treasury of St. Stephen's, at Vienna, have a peculiar interest, which, as mere barren studies, they would not possess. Again, his power of illumination, long before it became fashionable, was, as we here see, strengthened in the Public Library, at Rouen. From the picture galleries of Florence, from stained-glass windows, and from old half-ruined statues, he gleaned his knowledge of costume. His memoranda are here seen to have been rapidly made, with written notes of the most simple and other peculiarities which he saw in them. The embroidered vestments of the Italian priests, or rather the ornaments upon them, were noted down by him. Nothing—from the picturesque gables and spires which, in some ancient town, were grouped, as they had been for centuries, around the venerable cathedral, to the petals of a flower which, in a garden, were beauties beneath his eye, or the warm glow of a common candle's flame—escaped his searching eye, or was left unrecorded by his obedient hand;

and yet how often, spite of his entrancing energy and his wondrous sketching facility, he must have wished for as many hands as he had hairs, that he might have made them the subjects of the great object of his life, so as to be his very thought and action. We cannot think of Pugin and forget, although his staff be broken, that it was he who "made gaze the pine," and let the delicate Ariel out; that to his fierce enthusiasm, to his singleness of purpose, to his spirit, unbending, as the knotted oak, to falsehood or dissimulation, but ever ready to surrender the truth, and to whom we owe our advanced position, not only in Gothic, but in truthful art. We might, perhaps, have gained our present position without him, but it would have been years hence. His designs might, perhaps, occasionally suffer by comparison with those of many of his followers, but their labours could not have come within the same mode of thought as his. Olympus. He worked, without even a clerk, by the feeble light which he himself struck and kept burning amidst darkness and distrust. We now work illumined by the full brilliancy of his shining examples. We have skilled assistants to help us. We are encouraged by the approving shouts of believers in true principles instead of being, as he was, distracted by the roar and the hiss of opposition. English Churchmen, as well as Romanists, Baptists, and Presbyterians, now all bend before and beneath the revived Gothic art. Pugin found very little sympathy even in the church which he beautified and enriched. Like the old builders, who, with trowel in hand and sword in the other side, erected the second temple, he was obliged to keep his pointed pen ever ready to defend the pointed art which his pencil delineated against the attacks of his enemies. Those enemies have melted away like mist before the sun, and it is to their honour, no less than to his, that they were more ready, even than those of the creed which Pugin signally and unselfishly served, to do honour to his memory. But we are approaching the ground which we seek only to signal to one and all by whom the old art is acknowledged, the gems which are offered to their gaze from the treasury of their noblest predecessor.

We have mentioned the absence of all Pugin's drawings for his preliminary work. This delicate, many, with the difficulty that he possibly supplied by depositing on the table in this gallery a collection of the books which he periodically issued. They would be more welcome than the glass case now in the gallery, which holds specimens, unconnected with Pugin, of the photographer's skill who is about to publish these exhibited sketches. We should like to see the gallery as it appears as a table of the memorials, and to see the sketches better arranged. We have now some sketches belonging to one series inserted amongst those of another; others have no names attached to them, and a stranger to the subject is provoked by seeing something good, and at being at the same time left in ignorance of it, with the hope that even when the time comes to see the sketches in Pugin's illegible writing. The little scrap of description in the catalogue under the head of West Gallery, besides being meagre, contains an important error. In it the north side is filled with two different sets of drawings, whilst, apparently, the south side is left blank. North is, of course, written for south in one case, but such an error ought not to have escaped the proof-reader.

On the north we have, in fact, 117 designs and plans for the restoration of Balliol College, Oxford, together with a large collection of sketches from Avignon, Florence, Milan, &c. On the opposite or south wall we have eleven drawings, constituting the Scarlebrick Hall designs, with several sketches from Chartres, Lisieux, Ereux, Caen, Coutances, and Bayeux. On the west wall a series of sketches, chiefly English, large drawings of Bilton Grange, and St. Augustine's, Ramsgate, and the grand portrait of Pugin, by J. R. Herbert, R.A. On screen No. 1 we have a series of 160 original designs, and on the other five screens 370 foreign sketches.

Now, what we complain of is that there is no system in this arrangement, and that there ought to have been one. Either they ought to have been classed in countries—as, for instance, the "French," "Italian," and "English" sketches—or in the order of their execution; or else according to subject, putting metal work together, ornament by itself, and costume, colour, composition, and detail, each under its own distinctive heading. Either some of these different arrangements would have been better, or, instead of which they are sorted with their eye to art, and with that spirit of order, which is seen only in a child's kaleidoscope. Nestled amidst finished and later works, we light by chance upon, perhaps, Pugin's earliest exhibited work, a "View from the back of the Hotel Bourbon, Rue Jacob," of the year 1818, and of the 1st of September, 1818. It has not the signature, and was drawn evidently before he had adopted it. It is elaborately shaded, but does not show the masterly touch seen in the sketch of the "Well at Amiens" by the side of it. This latter sketch is the best ideal of what an architect's sketch should be—a small perspective view, with enlarged geometrical sketches of every portion.

We have already hinted at Pugin's sketching amongst the Italian and French sketches on the north wall, of the deck of a vessel, is exquisitely touched in. His sketches of Carcassonne Cathedral show that he never wasted time in making good-looking drawings. All that was likely to be useful to him in a building he drew, but he never drew anything that he was not exercised in his hand by sketching anything he could see. Hence we have the deck of a vessel, several views of St. Marie's Grange, a candle lighting up a curtain, &c. The palace of the Pope at Avignon was sketched, perhaps, from the interest he took in, and the reverence which he felt for, the head of his Church. The Venice sketches, of the different rooms of the Ducal Palace, were sketched, when he was so much as the historian of the "Stones of Venice" appreciated him. Giotto's chapel at Florence is shown us in a few lines. To one who

has not seen the original it is a bald representation, but to those who have seen it, Pugin's sketch perfectly recalls it. So it is, in a great measure, with the majority of Pugin's sketches. They were intended as aids to his memory, not as finished representations. One screen—the one in the north-west end of the gallery—contains a series of finished drawings for a contemplated work. As far as we can gather without that guide which we had a right to expect in the catalogue, it is a design for a chateau and for St. Mary's College. Both drawing and design elicit our warmest admiration; every detail is carried out with the same scrupulous care which characterizes the elevations and plans. Nothing is left to be designed by assistants, by decorators, by stone or wood carvers, or by metal-workers. Pugin was above that kind of practice; from laying the first stone to carrying the last final he was the only architect of his work. Locks and keys, linen-chests, bells, crockets, wall decorations, inscriptions, stained glass, washing-stands, bookshelves, bedsteads, curtains—he designed them all upon the true principles which were the foundation of his too short life. Such a thorough, manly character is not often met with, but, when encountered, should be "grappled to our soul with hooks of steel." He had failings, like the rest of us, but they lie beneath the stone which bears his illustrious name. The result of his short but laborious life is seen wherever the pointed arch rises emancipated from leaden depreciation—wherever the evenly carved crocket climbs the final burst in beauty—wherever the solemn and majestic lines from Gothic spires or the groined vault oocose the sacred chancel—wherever richly coloured light shines through the tracery window or the deeply recessed oriel. In cottage and in cathedral, and in the long list of buildings which fill the gap between them, we may trace, in a greater or lesser degree, the victory which he initiated, and in the struggle for which he was ever forelorn. The task he set himself was taken from his fallen hand and completed; but the honour belongs to him, and none are more free to acknowledge it than those who now gather their crops peacefully in the field where he, dauntless, in the midst of darkness and difficulty, drove the first furrow.

By the way, we have heard numerous complaints of the extra charge of a shilling made for admission to this collection. The Committee of the Architectural Exhibition ought certainly to have dispensed with it. The Pugin Collection is very useful to it in filling a gallery which would otherwise have been empty and revealed the poverty of the collection. The advertisement which the Exhibition have proposed publication ought to mention that the Exhibition is free, and that the only charge is a tax upon every visitor. The sooner the two parties come to some arrangement which will relieve the visitors of their cause of complaint the better it will be, we think, for the interests of both galleries. At all events, as the contents of all the galleries have hitherto shown for one shilling, they might divide that sum, charging sixpence for each collection; but the better plan undoubtedly would be to restore to us the scale of former years, and to let the Pugin Collection rank as part and parcel of the Architectural Exhibition. This ought to have been so settled at first, before the Exhibition opened, but it is not too late to retrace a wrong step and to remove the cause of justifiable irritation.

#### BRITISH MUSEUM.

WE are requested to make known the following special regulations respecting admission to the British Museum:

In order to give the public generally the utmost facilities for seeing the British Museum during the time of the International Exhibition at Kensington, the Trustees have laid down the following special regulations:

1. That the Museum, instead of being closed from the 1st to the 7th of May next, be closed on Monday, the 26th of April, and re-opened on the following Monday, the 5th of May.

2. That from the 5th of May to the 30th of August inclusive, the reading-room be kept open for readers, as usual, daily, Sundays only excepted; but not later than 5 o'clock.

3. That the Museum collections, including those parts of the library of printed books and manuscripts, to which admission on previous days, be kept open daily, Thursdays and Sundays excepted, from 10 o'clock in the morning till 8 in the evening, during the months of May, June, July, and to the 16th of August, inclusive, but till half-past 7 only for the remainder of that month.

4. That during the same months and days the reading-room, and a small portion of the library annexed to it, as well as the whole of the north library, with the exception of its western extremity, be open for the admission of the public generally, from 10 o'clock to 8, or half-past 7, as before mentioned; and that from 9 to 5 o'clock the reading-room, and a small portion of the library, be admitted to the reading-room, or to any of the libraries, except such of the rooms as are usually accessible to visitors throughout the year on public days.

5. That after 5 o'clock the reading-room and the libraries generally, be not used for the purposes of study.

6. That Thursdays be reserved for cleaning the several departments, and that no visitors, excepting readers, be admitted into the Museum on that day.

A. PANIZZI, Principal Librarian.

British Museum, March 24, 1862.

THE STATE PAPER OFFICE.—This structure, erected thirty years ago, is to be taken down; and the work of demolition will be commenced in a week or two, for the purpose of clearing the space for the new Government offices. All the documents contained in the State Paper Office will be transferred to the new buildings on the Rolls estate, in accordance with the arrangements which will in future have the opportunity of consulting them. The accommodation is small at present, but the Master of the Rolls is taking measures to extend it.

#### CRITICISM.

CRITICISM is a subject upon which an idea which is certainly important and sufficient, and may be fairly said to be essential, is generally held, for the popular notion about it embraces little beyond fault-finding, and the minute and hostile examination of individual works, or even of detached portions of works. The idea that hearty praise, or a general appreciation of excellencies, great or small, should form part of it, is one far from universally held; and the fact that the broad view and general principles at the base of all sound criticism, and are the first and most legitimate objects upon which it should be exercised, is still less generally appreciated. And yet both of these things are true, and need to be emphatically recalled to the recollection of many who attempt to criticize works of art, and the artists who produce them.

Criticism is a word of identical origin, meaning wide judgment, but by one of those subtle processes with which the history of language abounds, we have restricted the use of the one word to mean judging of works of art or literature, while the other is made to embrace the consideration of all classes of subjects upon which an opinion has to be formed without distinction.

If it be understood, then, that the art of criticizing ought to be held to mean the art of judging of certain products of human genius and skill, it will be readily perceived that the mere utterance of *oracular dicta* upon individual poems or pictures, books or buildings, will be but a part, and by no means the noblest part, of this art of judging. Sound grounds upon which to form opinions must be laid down. Sound principles of reasoning, and a suitable temper of mind must be acquired, and the art of correctly applying to individual cases broad principles already ascertained must be cultivated with care.

For the first, patient and accurate observation and a retentive memory are necessary; for the second, powers of generalizing and of logical reasoning are essential; while the third requires much familiarity with the nature of the objects under consideration, as well as with the principles by the light of which they are to be viewed.

A critic—at any rate a critic of the fine arts—is not to be regarded as a judge sitting by his executive law; his sphere is, at the present day, and will for long if not for ever remain a wider one, embracing quite as much the inquiry into the laws by which works of art ought to be regulated as that into the degree in which any given works of art have complied with or transgressed a given rule.

This is not the case in literature to the same extent as in the arts. The methods of human thought and the rules of literary composition have been more distinctly laid down, and traditions of criticism more directly handed down to us, than those of artistic design. It is not because there is less actually a right and a wrong in art than in literature, that the principles of the one are less clearly defined than those of the other, but because literature has been almost continuously studied from the times of the greatness of Greece till the present day, while art has been followed fitfully and at intervals. And further, in our own country, as, in fact, in all Europe, literature, in its rudiments or its refinements, has been widely taught in schools, and in the universities, and at all ages, while art has been constantly overlooked, so that those who would blush to utter a false quantity, or to write bad grammar, will unhesitatingly call Italian art pure Grecian, or declare in favour of the most glaringly inharmonious coloring or defective drawing, unaware that the one rank is of precisely the same character as the other; both alike betray ignorance of the rudiments of what ought to be the ordinary knowledge of a person of good education.

The same thing is true of thought and judgment, as well as of mere matters of information. You will find men of ordinary accomplishments, capable of weighing the relative merits of prose or verse writers, able to point out the defects in style of authors, their points of similarity or of contrast, and the reasons of their superiority or inferiority, and yet, at the same time, but there are, comparatively speaking, very few familiar with the works, the merits, the defects, the resemblances, and the differences between various schools of art, and between individual architects, sculptors, painters, or musicians. Still fewer are there at all capable of pointing out the grounds upon which such judgments ought to be formed, even if they themselves have arrived at decided opinions as to certain artists or certain schools.

The majority of great artists have never accustomed themselves to that accurate investigation of their own ideas, or that precise use of language which would enable them to embody in words the principles upon which they have worked—principles commonly underlying all their work, and yet, in many cases, never shaped to their mind in the form of rules; just as we may enjoy the perfect use of our mother tongue, and may speak it correctly, without having ever learned its grammar or its syntax systematically. We have consequently to seek in the words of artists, rather than from their written or spoken words, traces of the laws they have deduced from an observation of nature, or of other artists, for their own guidance.

The want of general information in the public mind relative to the arts is a great misfortune, but the want of carefully wrought-out criticism, of admitted and well-founded maxims to guide the private or public opinions of their observers, and of simple, yet logically incontrovertible principles for those maxims to be based on, is a far greater misfortune, and one which presses alike upon artists and the general public. To the establishment of these, then, should the highest efforts of criticism be directed, for it is only in accordance with well-established principles that individual works of art should be critically investigated.

Architecture—if free from some of the difficulties which beset painting

and sculpture on the one hand, and music on the other—is, nevertheless, a subject needing deep investigation, as will be apparent if we come to examine the opinions held by the most eminent artists in that field of art, or advanced by those who criticise their works.

Our ideas are in complete confusion—one man declaring in favour of symmetry, another in favour of picturesque confusion; one maintaining the superiority of Pointed Gothic, a second of Romanesque, and a third of the Renaissance; while here we have one artist depending entirely on form and proportion, there a second on every other element of colour, and, again, a third willing to see excellence in architecture only in proportion as it is enriched by sculpture.

This is not, however, the worst, if only these artists would refrain from depreciating that which they do not themselves pursue; for each of these minds has got hold of one thread out of the great skein which must be depicted together to form the perfect combination necessary to complete architectural art, and so far as the portion of the truth is seized upon, and held to, and worked by, so far all is well. Symmetry and picturesqueness, Gothic, Romanesque, Renaissance, proportion and colour, are each excellent portions of true architecture—nay, more, each one of these comprehensive words means so much that it may be quite enough to form the main feature of the architecture of one building, of one man, of one generation.

It is, however, when we come to find how exclusively each believer holds his faith; how the Gothic artist cannot believe that the Classicist may be right also; and the colourist cannot see beauty in form when in monochrome;—it is when we meet with bigotry, intolerance, and narrow-mindedness, that we begin to understand how much of ignorance we are all steeped in; how far Pugin's or any other authorities' true principles lag behind the external truths of nature, and how much we yet have to learn.

The last two centuries, unfavourable as they have proved to the arts, have witnessed an extraordinary and magnificent advance in the study of physical science, and the mutual relations of all the sciences to one another have been just as markedly brought into prominence as the facts and laws of the sciences themselves. Without doubt all true art is as much a whole as is all nature, and the obstinacy with which we persist in not simply splitting the art into fragments but also in neglecting every fragment but one, and then condemning those who have fixed upon any fragment except the particular one we ourselves are enamoured of, shows how far we are still removed from a true critical understanding of what we are about.

The moral of all this is, that it behoves us to study the art of architecture with the direct aim of establishing its first principles, and only to criticise so far as we feel sure of having solid ground to go upon. The method of studying architecture most usually adopted has hitherto been the historical; and while no method could be better adapted for interesting the student, and enabling him to remember with accuracy the facts with which his mind ought to be stored, historical study can be—often has been—pursued far without the necessity of investigating or understanding the principles of architecture as an art.

The value of the study of architecture as an embodiment of the great principles which belong to all the arts, coloured by and adapted to its peculiar requirements as constructive rather than purely ideal, has been till now too little recognised; it presents the noblest possible field for investigation, and, perhaps, no literature is of so much value to the architect as the attempts, more or less fragmentary as they have always hitherto been, which have been made to occupy this field.

The palm of honour here undoubtedly belongs to our eloquent but erratic art-critic, John Ruskin. Admitting fully the imperfections of his works—imperfections which have been remorselessly held up to light by those who have failed to mark the merits of his writings—we must gratefully acknowledge the efforts he has made to analyse the nature of architecture, viewed in relation at once to the necessities of construction and the fundamental principles of art.

Parts of the "Seven Lamps," and the first volume of the "Stones of Venice," will recur to the minds of those familiar with the works of Mr. Ruskin, and these alone would form a magnificent contribution to our art literature. We are disposed also to think that his introduction of references to other arts while architecture is under special consideration, and to this art, in publications devoted to the more especial investigation of natural scenery, or of painting, are most valuable, as tending to rouse a feeling of the mutual dependence and relationship of all the fine arts, and to induce a comprehensive grasp of great principles.

We owe it to Ruskin if the English public is beginning to think and judge intelligently of architecture, and perhaps we owe it also to him if some of our architects are themselves beginning to think of what they are about. We have, however, barely made a commencement. With space diminished by our travelling facilities, distance annihilated by the photographic art, and the accumulations of all time placed at our disposal in a manner hitherto impossible, we have much to hope that this generation will witness a general spread among artists and the public of comprehensive knowledge? We think not; and we confidently believe that an increasing appreciation of the excellence of all art, and an intelligent application of cultivated taste and well trained reasoning powers to the study of the art of architecture will, at no distant day, enable us to supercede many of our present imperfect, partial, and prejudicial views by enlightened, truthful, and comprehensive critical judgment, founded upon the immutable truths of nature.

#### THE MANAGEMENT OF OUR ART INSTITUTIONS.

FOR several years every one who has taken even a faint interest in the management of our art-collections has been conversant with the utter inadequacy of the existing system to fulfil the duties which fall upon it. It has no public defenders. Its only armor is that which has in the course of years slightly grown upon it, but at the sound of approaching opposition instinct rather than activity causes it to fold itself in this impenetrable and mysterious veil; calm and, apparently, indifferent, it craves no sign of animation, however heavy or stigma may be the attacks upon it. Vulnerable points are periodically discovered, and sharp weapons are sheathed therein to their very hilts, but no quiver betokens internal disturbance or discomfort. There is no ebb of the vital tide, no relaxation of its tenacious grasp. There is neither life nor usefulness apparent in it until the spring comes, when it opens to us as a cavernous mouth, reveals the yearly-increasing Parliamentary grant, and then sinks again into a state of abominable lethargy. In all other public matters we have some minister responsible for the expenditure upon them. The funds devoted to our art-galleries escape such inconvenient interference. The money may be improperly expended; pictures may be bought as works of art and sold as rubbish; but an elegantly turtled sentence from the Chancellor of the Exchequer repudiating all responsibility is all the satisfaction which Government can afford to any complainant. The keeper of the National Portrait Gallery may enjoy his "dignified repose" at the public expense in Great George-street, but the only answer to inquiry is that "it is still an infant institution." It must, therefore, make no clamorous noise around it, but submit meekly to the tirades of its exasperated monthly nurse, thankful that even the smallest of brass plates indicates the whereabouts of the haunting, and that we are even occasionally allowed to look, and expected, of course, to smile approvingly, upon its undeveloped beauty. The British Museum may be covered with unhealthy spots, its treatment evinced by its own officials, but no public notice is taken of it, must, on any account, interfere with it. The Trustees are professedly responsible, but for any real responsibility which we can touch and handle as tangibly as they touch the public money, we might as profitably have a Board of Afghans or New Zealanders. Ministers who never otherwise go near the British Museum will, when they are wanted, go there to pass a cutting and a resolution, but they will not, *ex officio* Trustees, act as Ministers who have to answer to the House of Commons for their actions.

The rotten system is defended by no Government, and yet each successive Chancellor of the Exchequer, whilst acknowledging the evil, puts forth some kind of plausible for, and does its utmost to prolong its life. Whenever the subject is brought before Parliament it offers an opportunity for a very ingenious speech. No one could fence more skilfully with the question than did Mr. Gladstone lately but throughout the whole of his speech he never for an instant grappled it fairly and manfully. The real point demanded was that for the preparation of any estimate, and for the expenditure of any money, votes should be taken in the House of Commons, and the National Gallery, and other art-institutions, one minister of the Crown should be responsible to the House of Commons. The resolution was clearly understood by every member, and by no one more so than by Mr. Gladstone; yet, how did he answer it? By admitting that the motion contained "little that is open to dispute"; that the speech of Lord H. Lennox was one "tending in the right direction towards unity, responsibility, and efficiency in the management of institutions of great public importance"; and then, without venturing to offer a negative to the motion, he cleverly led the members off on a wrong scent, by showing that the mover and seconder of the address differed in the details of their respective remedies. Because Mr. Lennox and Mr. Gregory did not agree in a minor detail, he "passed by" that portion of the subject; because the National Portrait Gallery is an infant institution, he finds therein a reason for passing by also the criticism applied to it. It is to no purpose that Lord Lennox showed that the National Portrait Gallery costs the country something like 18s. for every visitor to it. The charge is trivial as a matter. But he proposed to make a stand on behalf of the British Museum, and, after committee, we are told, has sat upon the British Museum, which shows that the mind of the country and of Parliament was beginning, for the first time in our history, to be turned to the subjects of art and science and education, as matters of political concern. The very fact of those gentlemen sitting and after the fashion of the British House of Commons, the Government of those institutions was imperfect—that there existed obstacles to their full development, and barriers to their improvement; and when we call to mind that the deliberate opinions of those committees have been disregarded, and that the constitution of the Museum remains unchanged in spite of them, we cannot be far wrong in concluding that the time is come when a resolution founded mainly upon their reports should be adopted by the House of Commons.

Throughout the whole of his dexterous address Mr. Gladstone proceeded on one plan. In one sentence he admitted the statements of the proposer of the resolution, and then, in the next, threw a veil over the concession. Whilst we say that the administration of these institutions is practically defective, the Chancellor of the Exchequer says they are "the best administered in any respect." Whilst we say that the present batch of administrative irresponsible Trustees are replaced by one responsible minister of the Crown the better will it be for the growth of art, Mr. Gladstone thinks that the constitution of the administrative body may fairly, "at some future time," be submitted to reconsideration and revision. Having done this, he treated the subject of art as a subject of art, and not as a subject of Natural History Collection, in order to distract the attention of the House from the main question, which was, that whatever public money is to be



expended, and whatever arrangements are made in consequence of that expenditure, ought to be placed under the direction of a responsible minister of the Crown.

Within the last fourteen years upwards of £2,200,000 has been voted without the faintest personal or individual responsibility. We know that we have different Boards of Trustees composed of the most heterogeneous members, and of the most comburant character; that the greater half of them are as ignorant of the subject to which they are appointed as the other half does; that some hold their offices on account of theological, and others on account of political, eminence; that some have a seat at the Board because their great ancestors took an interest in some special department of antiquities, and either gave or sold them to the nation; but that few take their seats at the Boards in consequence of their knowledge of art, or of their ability to give their time to promoting its growth. Moreover, we know that the opinions of the working few can at any meeting be overruled by the majority, who know nothing about the subject, and who consequently think it wise to allow things to remain as they are rather than necessitate even a small amount of thought upon the consequence of any proposed change that would involve jobbery or coarseness, or we might as well grasp at a ball of quicksilver as attempt to get hold of a responsible person.

We are asked to reserve our strictures until the proper time for considering the matter, and, after waiting, are then told that the proper time has gone by. Every kind of evasion is resorted to in order to silence opponents, and every subterfuge adopted to stifle inquiry. A plea of gaiety is put in to avoid exposure, and then a point of law is raised which sentence should be deferred, thus making the discussion refer but slightly to the indictment.

It is high time that these tactics should be abandoned, and that the question should be decided upon its merits. Lord H. Lennox may see a vista of promise in the speech of the Chancellor of the Exchequer. We can discern there only a dexter mirage, and on reaching it we shall expect another attempt to flatter us into silence by a repetition of the illusive promise.

What is required for the interest of art is, a minister with a seat in the Cabinet, who shall be entrusted with authority over our art-institutions, and over our public monuments, and who shall be responsible to the House of Commons, and through it to the country, for the expended money and for the works it is spent upon. When we have that concession made to us we shall have plenty of material to maintain, to improve, to beautify, and to adorn our art-institutions, but until we possess a responsible director of this department, all reports of committees on the subject and all suggestions as to their adoption are, it is to be feared, but as scud scattered in stony places.

#### WORKS AT THE PORT OF SWANSEA.\*

THE Port of Swansea was situated in the centre of an extensive bay, at the embouchure of the River Tawe, up which the tide flowed to the distance of three miles; but, as the ordinary flow of the river was trifling, the maintenance of the channel was chiefly dependent upon the ebb and flow of a large body of water between the piers. Previous to the year 1791 there were only a few insignificant wharves near the mouth of the river, and there was a bar at the entrance, over which the depth of water did not exceed from 16 to 17 feet at spring tides. The effect of the construction of the piers, which still remained as they were completed in the year 1800, from the designs of Captain Huddart, R.N., had been to lower the bar and to drive it further out to sea; so that in 1801 the depth of water had been increased to 30 feet. The eastern pier was 1,340 feet, and the western was 560 feet, in length. The author then alluded to the report submitted to the Trustees by Mr. Telford on the 10th of February, 1827, in which he recommended that the old and a proposed new channel of the river should be converted into floats, as well as to the opinions of several other engineers, including Mr. Jesse Hartley, who, in 1831, suggested that a new cut should be made for the river, which was a plan that was rejected by the construction of a weir across the mouth, and that the town reach should be appropriated to a dock and half-tide basin. In the following year Mr. Hartley, in a further report, addressed generally to his former plan, but advised, in addition, the deepening of the river to the extent of 22 feet 6 inches, and, in his opinion, the works for the "canalisation" of the river were not carried out. A new channel was, however, commenced in 1840, and completed in 1844, at an expense of £23,000. Its effect had been to lessen the risk to shipping, and, by giving a better direction and greater force to the outgoing current, to improve the navigation. In 1845 Mr. Rendel was consulted as to floating dock accommodation, and, under his direction, the construction of an entrance, with a pier, was proceeded with, with a view of preparing the way for the conversion either of the river, or of the town reach, into a float; but of this work the majority alone was executed.

In his first report to the trustees in February, 1840, the author proposed the formation of a dock on the site of the old river, and the conversion of the river into a basin, and was subsequently determined to construct a dock and half-tide basin of the respective areas of 11 acres and 2½ acres, with a lock entrance to the dock, 160 feet long and 55 feet wide, and an entrance to the half-tide basin 90 feet in length, having a depth of water over the sills of 22 feet 6 inches, and 25 feet 6 inches at high water of ordinary spring tides. A small lock connected the Swansea canal with the float, and another, at the head of the float, communicated with the various works on the banks of the river above. A small dock leading from the float, with an extensive range of warehouses round its margin, was also constructed at the same time for the Duke of Beaufort. The works for the lock and float were commenced in November, 1840, and completed in

December, 1861; those for the half-tide basin were begun in 1846, and were finished in 1861. The total cost of these works, exclusive of the quays, which had amounted to £95,088, in addition, the new portion of the river to the pier-head was straightened, and both it and the new cut were deepened by dredging. By these means the depth of the entrance channel had been increased 4 feet since 1850. The peculiar in the construction of the dock was, that, in its execution was attended with some difficulty, as a large portion had to be performed by tide work, with as little interruption as possible to the trade of the port. The foundations varied from hard concreted gravel to soft sandy clay, extending to a considerable depth.

The most important work connected with the port of Swansea was the raising of floating dock accommodation called the South Dock, which was formed on the foreshore of the sea beyond high-water mark. An Act was obtained, in 1847, for the construction of the dock, according to a design submitted by T. B. T. M. Inst. C.E. In 1850 the author was requested to make the necessary plans for a trumpet-mouth entrance basin, having an area of 3 acres; for a half-tide, or outer dock, entrance, 70 feet in width, with a single pair of gates, having a depth of water over the sill of 24 feet; for the inner dock, entrance, containing an area of 4 acres, with a depth over the sill of 25 feet 6 inches; for an entrance lock, 300 feet long and 60 feet wide, divided by intermediate gates so as to form a greater or smaller lock, with an average depth over the sill of 22 feet 6 inches; and for a dock having an area of 13 acres, with a depth of 24 feet. Considerable progress had been made with these works, when they were suspended, in 1850, for want of funds. They were resumed in 1857, and were completed in 1861, at a total cost of £140,075. The first object was the formation of an embankment to exclude the sea. Careful observations showed, that the main action of the sea and the set of the tides were to the eastward, towards the Mumbles headland. It was, therefore, decided to construct a series of walls, erected at intervals of 100 feet, and to connect them by the line of the proposed embankment. Rough boulder gravel, found immediately under the sand and the mud ground, was tipped between the seaward-ends of the groynes, until a single beach, of great depth, was gradually formed, which served as a base to the embankment, and when the sea embankment had advanced some distance, the masonry of the dock walls was proceeded with. These walls consisted of rubble, with coarsely rubbed facework to a height of 2 feet below the general level of the surface of the water, and the remainder of the wall to the upper part with ashlar, projecting 3 inches beyond the rubble facework. They were backed with the lightest and driest material that could be procured, in layers forming an angle from the wall, and rubble drains, with pipes for carrying off the water, were placed at intervals of 10 feet. The walls were subjected to an instance, and any failure taken place, although the walls were subjected to a severe test; inasmuch as they were nearly completed when the works were suspended, and, on their resumption, the dock and outer basin were found to have become filled with water, and were then given of the lock, and it was from this that it appeared that they were constructed, generally, with elliptical inverted arches of rubble, the quoins and floors, or platforms, being of sandstone ashlar, obtained from the coal measures in the neighbourhood. The pointed sill stones and the bottom stones were of granite, and the walls were carefully dressed and banded into the floor stones, so as to avoid a long straight joint. The recess and side walls were of rubble, with ashlar facework in the case of the outer basin, and the dock walls, from the bottom to the top, were built with ashlar. The filling and discharging culverts were of brickwork. The sluice frames and puddles were of cast-iron, lined with brass. In the lock and entrance gates the bolt and posts and the bolts were of cast-iron, and the English oak, and the ribs and planks were of pitch pine. Across the lock there was a swing bridge, in one leaf, consisting of two wrought-iron tubular girders, with a superstructure fitted for railway or road traffic. There being no seaward water from the lockage was supplied by a steam centrifugal pumping-engine of 24 horse-power.

The successful application of hydraulic power for working the usual hand gear at the float lock, and at the lock at Newport dock, with much heavier gear, determined the author to adopt the same plan for the Swansea dock. In case of any accident happening to the hydraulic machinery, the usual means were then always available. As it was of the utmost importance, in the shipping of Welsh coal, that as little breakage as possible should take place, the plan was adopted, that the smaller doors, or locks, were so constructed, that in any case of any class of vessel immediately at the hatchway; allowance being also made for the difference in area of the broad-gauge coal-waggons, the weight of which varied from 14 to 19 tons. The various machines employed for opening and shutting the gates, bridges, and sluice, or working the capstans, for discharging ballast, and for loading coal, as well as for the shipping and discharging of general cargoes, were upon Sir William Armstrong's hydraulic system, having accumulators connected to an effective power of 1000 horse-power.

With respect to the work performed by the hydraulic machinery, and its cost, it seemed that, during the year ending October, 1860, the actual expenditure for engine power had been £22 16s. 1d. per week, or at the rate of 0.26 of a penny per cubic foot of water used for the purpose of opening and shutting the gates, bridges, 0.10ths; by the combined door, 5.10ths; and by the waggons doors, 4.10ths of a penny per ton. But, inasmuch as the engine power was never fully employed, this statement must not be received as conclusive, as regarded the cost of the hydraulic machinery. With the horse-power steam engine, it was believed that 100,000 cubic feet of water could be pumped per week, at a cost of £30, or at the rate of 0.072 of a penny per cubic foot of water; and that of this quantity 60,000 cubic feet would be available for working the cranes and the sluice-gates, and the hydraulic power alone, of about 1 farthing and 1.7th of a penny per ton respectively.

The commercial effect of the construction of the dock works and of the general improvement of the harbour was shown by the great increase in the tonnage of vessels frequenting the port. In 1851, on the completion of the first dock, the tonnage amounted to 289,454 tons, and in 1861, to 502,000 tons, and during the year 1861 the foreign tonnage had increased 10 per cent, and the trade was likely to extend, owing to improved communications with the steam-aided and iron-producing districts, as well as with the heart of the kingdom.

\*The substance of a paper read before the Institution of Civil Engineers, by Mr. JAMES ARMSTRONG, M. Inst. C.E., who was the author of the works described in the present history of these ports, so far as it possessed engineering interest, and in describe the works connected with them, rather with a view to the elucidation of general principles than of entering into matters of detail.

## GROUND PLAN



MASTER'S COURT, TRINITY COLLEGE, CAMBRIDGE.\*

## THE MEDIEVAL COURT AT THE GREAT EXHIBITION.†

OUR readers are aware that the Ecclesiological Society applied for a space in Class 30 of the Great Exhibition, to serve, in legal language, as a "conduct-pipe" for works of architects and artists friendly to the Society, and willing to join us in a united representation of our phase of art. This application was favourably entertained. At the same time, several other exhibitors, distinguished in various branches of mediæval art, religious and secular, had asked for and had obtained space in the same Class. The time drew nigh to map out the area among the different applicants, the immediate labour being divided between Mr. Waring, the superintendent of the Class, and a committee of exhibitors presided over by Mr. Crace. Observing, as they did, that we came forward in the character, so to speak, of super-exhibitors, within our own space, and that the works of the other mediæval exhibitors in the Class were homogeneous with our own, they proposed to us that we should take the control of the whole mediæval department within that Class, receiving and arranging a Mediæval Court; under the obligation, of course, to provide for the list of exhibitors who had already received their allotments. We did not hesitate at once to close with an offer made in no friendly and complimentary a manner, and so desirable for the objects which we had in view; while the exhibitors who were thus placed in correspondence with us most cheerfully acquiesced.

Accordingly, we are in possession of a court of 50 feet square, advantageously placed in the open space on the north side of the nave, and close to the eastern dome. Mr. Burgess and Mr. Slater have agreed jointly to carry out the arrangement of it, and in their hands we are sure that it will be well done. We have no wish to forestall anticipation by a detailed catalogue of the Mediæval Court; but we may, in passing, mention that nearly all branches of ecclesiological art will be most satisfactorily represented. Sculpture will partly appear in completed works and partly in casts. We may note a reredos by Mr. Street, executed by Mr. Earp; and a portion of that for Waltham Abbey, designed by Mr. Burgess, and executed by Mr. Nichol, with the cartoon of the rest. There is likewise a reredos, by Mr. Teulon, carved by Mr. Earp; and another by Mr. White, and a cast of the sculptures in the Westminster reredos, sculptured by Mr. Farmer, under Mr. Norton's direction. Mr. Redfern contributes casts of his sculptures of the Ascension, for the Digby mortuary chapel at Sher-

borne, and for Mr. Slater's Westropp monument in Limerick Cathedral; the latter being arranged in connection with a portion of the actual carved work of the monument. Mr. White and Mr. Norton contribute fonts; and there will be a cast of the Renaissance font at Witley, which Mr. Forsyth carved for Mr. Dawkes.

Mr. Philip will contribute a cast of Dr. Mill's monument (designed by Mr. Scott) and effigy at Ely. Mr. Nichol will send another effigy, executed under Mr. Burgess' eyes, and arranged on a high tomb in connection with some subjects in relief. Mr. Forsyth sends the late Lord Cawdor's high tomb, of which Mr. Newfield was architect. Statuary by Mr. Farmer and Mr. Forsyth will also appear. Messrs. Clayton and Bell give one of the circular panels, with an incised subject, for the Lichfield pavement. In woodwork there will be the stalls of Blichester, carved by Mr. Forsyth from Mr. Slater's design; Mr. Burgess' piquant painted furniture; Mr. Norman Shaw's rich bureau, executed by Mr. Forsyth, which was shown a year or two since at the Architectural Exhibition; and a decorated organ, by Messrs. Prichard and Seddon.

Metal-work will be largely represented in contributions by Mr. Skidmore; and Mr. Street will send the iron font cover for St. James', Garden-street, by Mr. Leavers. The Ecclesiological Society will have the satisfaction of exhibiting the frontal which it presents to St. Paul's cathedral, designed, according to the "Cologne" method, by Mr. Bodley, and executed by Mr. Bell. The Dean of Peterborough has also most kindly lent the new frontal for his cathedral, executed by the Ladies' Ecclesiastical Embroidery Society; and the same Society sends a frontal for Cleehonger church, designed by Mr. Prevel. The court will also contain hangings by Messrs. Jones and Willis, executed after Mr. Street's designs. The progress of Mediæval art-manufacture in general will also be illustrated from the firms of Messrs. Morris and Marshall, Harland and Fisher, and Hayward.

We might name other contributors, but we have enumerated enough to show that the schools of art, which in the Exhibition of 1851 were all but exclusively represented in Pugin's court, will now be taken up by independent hands, with the advantage of the schooling of eleven laborious and eventful years. But mediæval art is not confined to our own court. The National Committee for Architecture has also the control of a court for the exhibition of architectural art-manufactures, of all styles, situated on the east side of the south limb of the transepts, which project from the east dome, in which we are glad to say that Gothic art will not occupy an unobtrusive position. It will contain the marble pulpit for the nave of

\* For View and Description see pages 726 and 329, Vol. VII.  
† From the Ecclesiologist for April.





member, then read a paper entitled "On the Leonine City, Vatican," which was illustrated by a large map and some drawings.

The CHAIRMAN invited the remarks of gentlemen present on the very interesting paper which had been read. It was not possible to add anything to the information which the lecturer had given, but they might certainly desire to have his wish carried out in the fixing of a defined city for the Popes which he had pointed out, so that thus a *quarta vettura* might be found for each of this generation and posterity. The lecturer, however, who had been referred to by the lecturer, he was always struck with the singular mechanical accuracy of the Roman buildings. In their masonry was uniformly found what architects had been breaking in vain, and as things put together, the case was not in brickwork. He never saw Roman brickwork in London, in England, or in Paris, in which that marked accuracy was not observed; that was the strict breaking of joint. Another peculiarity was the enormous thickness of the mortar-joint in brickwork, which was nearly equal to the thickness of the bricks themselves with this matter a peculiarity of interest to architects and builders. If the bricks were good and the mortar good, nothing was so bad as the needless way in which they were sometimes put together. It had always struck him that care should be taken in the workmanship, and the placing of bricks and jointing, to have them properly placed. As to the attacks upon Rome referred to by the lecturer, it was singular that both the great assaults, that made by Constable Bourbon and the late one of 1848, occurred pretty nearly at the same point. The attack made by the Constable Bourbon was well described by Guicciardini, and the account showed the barbarity with which Rome was attacked and sacked at that time. The assault on the city was made from the same side in both instances.

Mr. M. DUGBY WYLLIE referred to the connection between the Romans and the city of Rome, and remarked that he thought anything which at all tended to illustrate the connection between Saxon pilgrims and the early Popes showed the actual process of the extension of the arts of ancient Rome by bringing a knowledge of them to the people of Northern Europe. He next referred to the great fresco at the front of the basilica of St. Peter's, in which all architects must feel a profound interest. Of course they must remember the Lateran Palace was originally the great house of the Popes, and which the great work of the Vatican was commenced. Through the aid of the Medici and the Este, the princes the foundation of the museum at the Vatican was laid. And they must all know that the Vatican library contained treasures of art, beauty, illustrations of history and art, which was a great source from which much light might come to us of the history of men, of manners, of literature, and other things. He hoped that those treasures of art would be more freely unlocked. He was sure they were all much indebted to Mr. Burgess for his paper, and he proposed a vote of thanks to him.

The Rev. R. BURGESS, in acknowledging the compliment, suggested that Mr. Dugby Wyllie should, on a future occasion, favour the Institute with a paper on the treasures of the Vatican.

The meeting then separated.

#### CAMBRIDGE ARCHITECTURAL SOCIETY.

THE fourth meeting of the session of the Cambridge Architectural Society was held on Thursday last, in the Philosophical Society Room. C. C. COOPER, Esq., in the chair, when the Rev. G. Williams read Dr. Pierotti's paper on "The Tombs of Palestine."

The paper commenced with an explanation of Rachel's Tomb, of which a ground plan and other drawings were given. He entered fully into the question of its age and other particulars. He then spoke of the Mosque of Hebron, which built over the Cave of the Sepulchre, and contains the tombs of Abraham and Sarah, of Isaac and Rebecca, and also a sarcophagus of Joseph, though Joseph was not buried there. He gave an account of his investigations concerning the subterranean caves, and explained how far he had been able to carry them on, and the causes of difficulty connected with it. He then proceeded to speak of the tomb of Joseph, now held in great veneration both by the Jews and Muslims. After discussing the position, &c., of the tomb of Samuel, he spoke of the tomb of David on Mount Zion, and related the story of David's regicide being the cause of the Jews to the north. He then gave an account of the Sepulchre of Our Lord, and traced the walls of the ancient city, showing how this was without the walls. He explained it with its remains and sections of its present state, and its supposed original condition. He also entered into the question of the tombs of the prophets, and other antiquaries who have studied the topography of Jerusalem, explaining carefully the points of difference. After speaking of the tombs of Abraham, Jacob, Joseph, &c., he gave an account of the tombs of the prophets, and other antiquaries who have studied the topography of Jerusalem, explaining carefully the points of difference. After speaking of the tombs of Abraham, Jacob, Joseph, &c., he gave an account of the tombs of the prophets, and other antiquaries who have studied the topography of Jerusalem, explaining carefully the points of difference. After speaking of the tombs of Abraham, Jacob, Joseph, &c., he gave an account of the tombs of the prophets, and other antiquaries who have studied the topography of Jerusalem, explaining carefully the points of difference.

After a pause, Mr. Williams rose to give an explanation of his views on the subject, and said that he hoped to publish his paper on the subject, and that he was not more nearly, but he at present did not want to enter much into the controversy with him as he is going to publish his views, and he thought it better not to discuss the subject until he had done so.

#### MISSION CHURCH, WESTLEIGH MILL, LANCASHIRE.

THIS church, just erected under the auspices of the Vicar of Leigh, near Bolton-le-Moors, Lancashire, is intended to be used as a school during week days, and as a mission church on the Sabbath. It is a nave, about 20 feet wide, of which only a portion is at present completed; it transepts about 20 feet square, with boys' and girls' porches attached, and a chancel 30 feet by 20 feet. On the north side of the building are a small sacristy and a class-room or library.

The walls, both exterior and interiorly, are of the red brick of the locality, relieved with bands, corners, and alternated voussoirs of straw-coloured freestone and blue headers, sparingly introduced. The roofs, which are open to the ridges internally, are covered with blue Bangor slates of the smallest size, into which are worked diaper and other patterns of green and purple Welsh stone, the ridges being of blue Staffordshire tiles. All the works have been separately executed by local tradesmen, from the designs and under the direction of Messrs. Hayley and Son, architects, of Manchester.

#### INSTITUTION OF NAVAL ARCHITECTS.

At the meeting of this Institution on the 27th ult., Captain FOWN read a paper on the Manufacture of Iron Armour Plates, a portion of which (we have not space to quote) was very carefully recorded in our pages.

The subject of the best method of manufacturing the armour plates was first brought under the consideration of the writer when the Thames Ironworks Company received the order for building the *Warrior*, and it became a question with him, whether the plates should be cast or pressed, and for the purpose of forging, or increase the power of their mills for rolling the plates.

At that period, after careful consideration, the conclusion was adopted that the plan of hammering would produce the best results, and subsequent experience has, in the opinion of the writer, fully borne out the conclusion.

Two qualities in the iron appear to be of prime necessity—toughness and solidity. If the iron is hard and brittle, it is easily cracked and broken by the shot; if unsmooth, either from blisters or lamination arising from imperfect welding, the power of resistance is proportionally diminished. It has been conclusively proved that any given thickness of iron, if composed of layers of thin plates, has very little resisting power in comparison with the same thickness of one plate, and a plate apparently solid, but imperfectly welded, exhibits the same weakness.

The process of rolling plates 4½ inches thick has been described by the head of the eminent firm of Messrs. Brown and Co., of Sheffield, in a paper read by him at the Institution of Mechanical Engineers, Birmingham, as follows:—

"Bars 12 inches broad, 1½ inch thick, are first rolled; five of these are then piled and rolled into a rough slab; two of these slabs are rolled into a plate 1½ inch thick; four of these plates are then piled and rolled into a plate 2½ inches thick; and, finally, four of these 2½-inch plates are piled and rolled into the finished plate."

The hammered plates manufactured at the Thames Ironworks are made in the following manner:—Scrap iron of the best description is carefully selected and cleaned, then rolled into a rough slab, 12 inches broad, 1½ inch thick; these bars are cut up, piled, and again hammered into a slab; several of these slabs are put together, heated, and hammered to the form required, and, as this process is being repeated, the plate goes on gradually increasing to the length required.

In the manufacture of the best hammered plates there is no mystery; it depends simply on the selection of the best material, and the employment of the most skilful and careful workmen.

The writer confidently believes that scrap iron, rolled and hammered as before described, is decidedly the best material, and superior to any description of puddled iron from which all the rolled plates are understood to be made. That the toughness of iron is dependent on the manner in which it is heated, and no underdog cannot be doubted. This working has already been given to a great extent to scrap iron, and the process of rolling it into the 6-inch bars, which are the raw material of the plate, gives it the degree of toughness and heat, and heat which it appears to retain through all subsequent heating and hammering.

The tendency of hammering to harden does not take away this toughness, and the process of annealing restores much of what is lost. Numerous experiments on single plates which have been fired at, and close observation in the drilling, planing, and bending of the large quantities of plates which have been hammered in this manner, have shown that the brittleness which has been attributed to hammered iron is entirely avoided, and that the toughness of the material is superior to that of the best cast iron, and that the plates are produced. Solidity and freedom from blisters or lamination is unquestionably more certain in the hammering process; and when it is considered that to produce plates of the thickness of 10 inches, the plates must be perfectly welded at every point throughout the finished plate, under penalty of their being rejected, the frequent occurrence of this evil would seem to be inevitable; the presence of dirt between any two layers, or the failure to reach a welding heat in any part of the centre of the large masses which have to be dealt with, being certain to produce this fatal result.

It must also be remembered that as the hammered plate is gradually built up of the slabs before described, a comparatively small portion of the mass required to be placed in the furnace at one heat, heated at one time, while in the rolled plate the pile, 10 inches in thickness, and weighing six or seven tons, must be brought to a welding heat at once, and the operation of welding completed before this heat is lost. To obtain this heat throughout the mass without burning the surface, and to avoid the loss of the fire, cannot be accomplished with any uniform result, and when this has been accomplished, any delay in dragging it from the furnace, getting it to the rolls, forcing it between them, and completing the rolling process, will result in the loss, even of a few moments, may be fatal to the success of the operation.

These difficulties, of course, increase with the thickness and weight of the plates; the foregoing observations are made with reference to plates 4½ inches thick, and it is not surprising that the thickness of the plates should be doubted if these difficulties can be successfully overcome in the rolling process.

The attempt has recently been made to effect a combination of the two processes of hammering and rolling; the slab, 10 inches, or thereabouts, in thickness, being forged under the hammer, then heated in a furnace, and rolled in the same manner as the pile, forming the final process described for the rolled plate. To this the writer objects that this plan involves the serious difficulties already alluded to, in connection with the heating and rolling of large plates, and that far experiment confirms this opinion; the plan is manifestly impracticable, and has never proved under trial greatly inferior to the rolled plates and those hammered at the Thames Ironworks.

In the case of smoothness of surface and uniformity of thickness, it may be observed that the hammered plates are quite equal to the rolled, and with respect to cost of production up to the thickness of 4½ inches, the market price of hammered and rolled plates is the same; but, if the thickness and weight be increased, the cost of the hammered plates is proportionally enhanced, while that of hammering will remain but little, if at all, altered.

NORTH OF IRELAND ARCHITECTURAL ASSOCIATION.—According to the *Dublin Builder* it is proposed to establish an Institute, under the title of "The Ulster Architectural Association."

The Engineer notes that those taking an interest in the "smoke nuisance" question, may find any day the principal chimney of the Houses of Parliament belching forth dense volumes of smoke.



MISSION CHURCH, WESTLEIGH MILL, LANCASHIRE.—MESSRS. HATLEY AND SONS, ARCHITECTS.









## ON MOVABLE BRIDGES.\*

THE subject of movable bridges is brought before this Institution, not because anything very new or original is to be introduced or explained; but it is presumed that it will not be uninteresting to glance at some of the prominent features of such bridges, at some of the improvements which have lately been made upon their construction, and at the merits of each kind of movable bridge in certain situations.

Under movable bridges may be classed draw or lift bridges, swing bridges, folding or post-and-rail bridges, and such others as are the only movable bridges adopted to any great extent in this country for permanent use.

At first, in crossing the ditches round fortresses, draw bridges consisted of a simple wooden platform, which was opened and closed by means of a chain, laid horizontally, and parallel to the sides of the opening to be crossed, or, to the top of a stone wall or abutment by means of strong hinges. The platform was acted upon at its other extremity by levers, or by chains, worked either by wheels or by hand, and thus raised to the vertical position when necessary.

When ship canals were introduced into this country about a century ago, it was requisite to have movable bridges for all roads which crossed over the navigations. Draw bridges of a simple construction were often used for this purpose. The platform was generally divided into two equal parts, each revolving on a horizontal axis, and raised by means of chains passing over pulleys which were fixed up by wheel gearing. Afterwards the back-balance was added, and which is now one of the principal features of a draw bridge. The equilibrium being perfect, friction is the only thing to be overcome in raising or lowering the platform, and this is generally effected by means of a simple working of a central axle, which is fixed to the sides of the bridge.

Draw bridges are also used for crossing locks and cut distances at many of our harbours, and some of them are of considerable dimensions.

The abutments of these bridges are generally of masonry. The chambers or wells for the counter-balances are sometimes formed by inserting into the stone work of the abutments cast-iron boxes; but these wells can be made perfectly water-tight by ashlar masonry set in hydraulic mortar. The platforms were at first nearly always constructed of wood, and afterwards many were made of cast-iron; but during the last ten or twenty years several large lift bridges have been constructed with wrought-iron girders and cross braces.

The draw bridges over the Forth and Clyde Canal, in number about forty, are from 20 to 32 feet in span between the faces of the abutments, and from 10 to 14 feet wide, the platform of each being a triangle. The axle of each is cast-iron, with sockets in front, into which the timber jacks are fitted, and with arms behind, to which the back-balance is fixed. The axles revolve on cast-iron bearings, and each half of the bridge is raised by means of the gearing shown in the drawing. The timber jacks are covered by two layers of cast-iron plates, the sides are protected by wooden fences. These bridges are very easily worked by two men, one on each side of the canal.

A draw bridge at the London Commercial Docks is 46 feet span in the clear, and was erected from a design by Messrs. Walker and Burgess, in 1853. The platform is also to two parts, each having four wrought-iron girders 43 feet long, firmly bound together by cross wrought-iron braces and ties. A central axle 12 inches square is firmly fixed to them, and revolves on cast-iron boxes provided with brass bushes. Kentledge boxes are fixed to the landward ends of the girders, and between them, for the counter-balance, which is 10 tons in weight, for each half of the bridge. The girders are covered with two layers of plating in the usual way, and the bridge is raised by the gearing at each side of each leaf, four men being required for opening the bridge.

Swing bridges are now extensively used at harbours, and for crossing inland navigations, both for roads and railways. The abutments are generally of masonry, but in many cases they are constructed of timber. The platform of swing bridges, until lately, were usually of timber framing of cast-iron girders, tied together and covered with planking. To the under side of the platform was fixed cast-iron rings or rollers, on which the axle was fixed to the abutment, the surfaces being inclined for the rollers. Between these two rings were placed from ten to twenty conical rollers set in a cast-iron frame or live ring at equal distances. These rollers were generally from 6 to 18 inches in diameter, and from 8 to 12 inches broad. The counter-balance of the bridge was provided by a central centre pin. The rollers were usually of chilled iron, but sometimes of brass, and on them the whole weight of the bridge was placed. The friction was, however, small, and powerful gearing, worked by at least two men to each leaf, was required to open and shut all bridges, but those of the smallest and lightest description.

There are many fine examples of these bridges at our principal harbours, of large dimensions, which reflect credit on their designers and constructors.

Swing bridges for roads were erected in two places over the Forth and Clyde, but when railways began to intersect the country, it was necessary to modify or improve such bridges, so that a rigid platform for the passing train could be obtained in crossing the navigations, for which it was essential to have head-room for masted vessels. Thus the rigid swing bridges of one leaf have been generally adopted, and these have been made either of cast or wrought iron. The bridge over the river Forth, on a branch of the Great Eastern Railway, is a fine example of a cast-iron swing bridge, the girders of which are 112 feet long, each weighing 34 tons, and made up of four lengths.

The bridge near Falkirk, designed by Mr. A. J. Dale, for carrying the Strathgarry Midland Junction Railway over the Forth and Clyde Canal, is an admirable example of a malleable iron swing bridge. In the former, the whole weight of the bridge is on sixteen conical rollers; in the latter, the greater part of the weight is on a steel ball, supported by a centre pivot; and the remainder of the weight is on conical rollers. The bridge is raised by means of a central axle. This bridge is easily worked by two men, and the platform is made rigid by means of four strong screws, which are turned by geared shafting. There is a screw on each side of the platform, which is turned by a screw on the steel ball, and the platform adjusted. The ironwork of the platform cost about £1,000.

As in engine turn-tables, improvements have been introduced, which have simplified and cheapened the construction of these bridges, and rendered the working of them easy and expeditious. The recent improvements are—1st,

making the framework of wrought iron instead of cast iron, and thus reducing the weight of the platform, and correspondingly the back-balance. 2nd, putting the whole weight, or nearly the whole, on a centre pivot, capped with a steel ball, working into a steel socket. 3rd, having only four or six narrow rimmed wheels, with a very small number of axles, and which are used only in reference to horizontal, instead of a large number of conical rollers. By these and other minor improvements not only is the friction reduced to a minimum, but the construction is much simplified and cheapened, for the live roller frame and counter roller are done away with altogether, and bridges of moderate size can easily be worked by one man.

A swing bridge into which these improvements have been introduced, has lately been drawings made out by, and executed under the superintendence of, the author, for carrying the Tweed and Tyne Navigation over the Forth and Clyde Canal, by Messrs. William Baird and Co., over the Forth and Clyde Canal, near Kilsyth. The clear span of this bridge is 25 feet, and the width of platform 11 feet. The abutment of timber and masonry, and which is used only in reference to horizontal with planking. On the south abutment are fixed the centre pivot, and the casting or wheel-path, which is 11 feet in diameter. The moving platform consists of two wrought-iron girders, each 45 feet long by 2 feet in depth at the pivot, and 14 inches at the outer extremities. These girders are composed of plates of angle iron riveted together in the usual manner. Over the pivot the girders are joined together by a strong cast-iron cross girder, made hollow at the centre to encompass the pivot. To the top of this cross girder, at the centre, is fitted a strong cast-iron ball, into which a steel socket is fitted. This socket works into a steel ball, which is a hemisphere, 7 inches in diameter at the base; and the cap is fixed to the girder by six 1½-inch screw bolts, by means of which the bridge can be raised or lowered for adjustment, and by which the whole weight of the platform can be put on the pivot. The longitudinal girders are further tied together by two cast-iron and three wrought-iron cross girders. To the ends of the cast-iron cross girders, along with the web of the longitudinal girders, the wheels are fixed by screw bolts. The wheels are of malleable iron, 21 inches in diameter, with rounded tires 2 inches broad. The axles are of malleable iron 2½ inches in diameter, and revolve in journals placed close to the main girders. The bridge is covered with planking 4 inches thick, and the rails are laid upon the longitudinal timber beams, which rest on the planking right over the girders. The bridge is opened and closed by simple gearing: the lower pinion working into a circular rack, which is cast upon a part of the ring or wheel axle of them; the ends of the girders swing over the abutment plates and about 1 inch clear of them; but to insure the platform a solid bearing, the ends of the platform, wrought-iron frame, 9 inches broad, which slides in a grooved frame, fixed to the bottom flange at the end of each girder, is drawn tightly to between the ends of the platform plates by means of diagonal bars, and covered over; and by the insertion of four wedges the platform can be raised perfectly. The bridge has a self-acting catch or lock to fix it when either closed or opened. The back-balance weighs 13 tons, and consists of square blocks of cast iron, placed on the ends of the girders behind the abutments. A considerable amount of traffic has passed over this bridge during the last eighteen months, and it has been found to answer the purpose satisfactorily. It is easily opened or closed by one man in 50 or 70 seconds. The movable platform, including all the ironwork, cost about £2,800, and about 20 men were employed about it.

It remains now to allude briefly to the advantages and disadvantages of draw and swing bridges in certain positions.

Draw bridges are very suitable for crossing the entrances and locks at harbours, where ground is limited and valuable, for all their parts are so closely within the roadway, that the bridge is kept upon a level platform covers ground of its own dimensions, which may not in many cases be easily given up for this purpose, as at the crowded docks of London. Draw bridges are, therefore, still being adopted there, for besides the large one erected at the Commercial Docks in 1853, already referred to, and which has since worked perfectly satisfactorily, another wrought-iron draw bridge, 31 feet span, has been opened for traffic two weeks ago by the same engineers at the same docks. A cast-iron bridge was also erected over the harbour of Great Yarmouth, 56 feet span, in 1854.

Several cast-iron lift bridges were erected over the entrances to the Hull docks fifty-five years ago, and are still in good working order. At many other places they are still in use, and with advantage. It is not, however, a subject worthy of consideration by engineers, where a large portion of the traffic, as in London, consists of barges passing out and in, in which case it is only necessary to bridge a little more than the width of the navigation, and the swing bridge, the leaf would require to be turned nearly full round, occupying much time.

However, in many cases, draw bridges are now being superseded by swing bridges. The advantages of the latter are, that they are so easily adapted to construction, the working parts being all above the abutments, and readily got at, and consequently more easily kept in repair; and their suitability for railway purposes, for draw bridges being nearly always in two leaves, it is difficult to make them strong enough for passing a train; and the rails over canals or other inland navigations they are not so convenient or so economically worked.

At present on inland navigations where draw bridges are in use, as on the Forth and Clyde canal, some permanent bridge keeper is sufficient for each bridge, the leaf on the towing-path side being raised by the horse driver; but when steam-power on canals becomes universal, as is likely to be the case, two bridge keepers will be necessary, and the expense of the keeper otherwise a man from the steamboat must leap ashore at every bridge for the purpose of raising one half of it; a practice which will both cause delay and be dangerous.

The equilibrium of a draw bridge is often interfered with by surface water raising into the counterbalance wells, and by the wooden platforms becoming soaked with rain or dried by the sun's rays. In a swing bridge the exact equilibrium is not of so much consequence, for any small over-weight on one end is easily corrected by the wheels.

It may, therefore, be expected that the day is not far distant when swing bridges will take the place of draw bridges on all inland navigations on which movable bridges are required; and even for harbours they are generally found to be better suited for crossing locks and entrances to docks and basins.

This subject has been brought forward so that the merits and demerits of swing and draw bridges may be considered and discussed, and not without the hope

\* Read before the Institution of Engineers in Scotland, by Mr. D. M. McCALL.













# THE ESTATE OF THE ROYAL COMMISSIONERS FOR THE EXHIBITION OF 1851.



THE disproportion between projected plans and what is actually accomplished is everywhere written on the pages of history. Nations and rulers from time to time essay great things. Seldom is it that they are not forced in the end to content themselves with a mere fraction of what they desired, and, ruefully to count the cost at which that modicum even has been obtained. There are few men of middle age but will confess that the realisation of their pet schemes has fallen lamentably below the height to which their sanguine hopes once ardently soared. Not only is this the experience of individuals in the narrow details of private life, but more strikingly so, of those who would fain have elevated the people, but have found that their words have been wasted on cold and inattentive hearers. Nonetheless, while probably enough in questions concerning social and political matters, is the almost certain result of all efforts which demand cultivation of the mind. If the multitude would slide into the groove so temptingly laid before their very feet, if they had eyes for what we, who wish to be regarded as their

teachers, insist upon, is their true interest, society would undergo a transformation hard even to imagine. Whether it be that this assumption of superiority on our part repels instead of attracting, or that the majority find an unconquerable dryness in all that relates to science and art, and are, consequently, slow to appreciate the advantages held out to them, or that the daily struggle for daily bread leaves little time and less relish for mental provision, certain it is that schemes which aim at the intellectual improvement of the mass, are too frequently misdirected. Their birth-throes are separated by a brief interval from the moment of dissolution. Sometimes, if longer-lived, and fairly launched with favouring wind and tide, they founder in sight of shore, and sink to a depth far beyond all soundings.

Who, that hears the name of South Kensington, and looks on what was, within half-a-dozen years, fields and lanes, can fail to be reminded of the a swelling project that emanated from the councils of the Royal Commissioners for the Exhibition of 1851? Who, that sees those bran-new stucco palaces, can help comparing this picture with that—the evidences of a brilliant commercial speculation with the proposal for concentrating all public institutions in one grand focus?

Not that the Royal Commissioners have, even now, altogether abandoned their first love; but, by little and little, their heart-hold has grown fainter and fainter, till, at last, they retain only fifteen acres applicable to a scheme that once appeared to vast and important as to demand ten times this extent of land. They may, perhaps, persuade themselves into the belief (as would seem to be the case) that, in one way or other, they really have done something towards carrying into effect the magnificent design, which was conceived by them in the heated flush kindled by the success of the Exhibition in Hyde-park. They may point to the South Kensington Museum, and connect its existence and the creation of the Department of Science and Art with the animated aspirations that found a voice in their second report. Unhappily, the facts are against this view. The various art-schools and industrial institutions had a being, quite independent of the South Kensington Museum, and related to them—not they to it—the whole being fused into a Governmental Department.

What are main features of management at Brompton? The purchase of objects of ornamental art, and a system of circulation. Both these objects of imparting public instruction were suggested by a Committee of the House of Commons in 1836. As far back as 1840 a considerable sum in one grant (£10,000) was voted to purchase examples of art for the Schools of Design. Improvements have, it is true, been grafted on the tree of knowledge that grows at Brompton. What wonder if its branches shoot out with vigour, when its roots are watered with £100,000 a-year! However, let us do no more than justice to the Royal Commissioners, and hasten to admit that this illustrious body, in conjunction with the Society of Arts, formed an "Animal Produce Museum" on which large sums were spent; that they erected, at their own cost, the refreshment and retiring rooms, of which, when completed, they made a free gift to the Department; and that they also provided fittings for various sections of

the Museum.\* But, in making this concession, little beyond providing a building site seems to have been added to the opportunities before enjoyed by the public—little, that is to say, as proceeding directly from the Commissioners.

To be told that the general taste has improved within the last ten years is to be told that England has not been standing still, but that has marched on with the rest of Europe. What has this recent period not done for architecture? Both schools, Classic and Gothic, will agree on this point at all events—that there has been progress of a decidedly hopeful character. Still, it would be difficult as well as invidious to point out any one in the profession who could be said to be the leader in the onward movement. Happy he who is content to share with others his renown, and thus attain the summit of dignity within reach of the true artist—humility!

It boots little to recur to what was once thought of and has now well nigh vanished, except that the threatened removal of the British Museum Collections to the Crystal Palace has been abandoned. The removal, and may, even at the eleventh hour, give a body to the will-o'-the-wisp that has eternally danced away from the feet of those who followed in its track.

For this reason, then, we believe that it will be not uninteresting to pass in review the history of the Royal Commissioners' proceedings, and to learn the terms on which the nation may obtain a part of their estate for public purposes.

The year following that of the Great Exhibition, the green sward grew again over the area which the building had covered, and of its existence no trace was left but a pump and two blighted elms. The Commissioners found themselves with a considerable surplus for cash. Then it was that ambitious promptings stirred their mind, and they put forth a notable proposition, which was lacking in one most important requirement—that medium, by the aid of which alone there was any hope of erecting structures of a description more substantial than castles-in-the-air. They conceived a most comprehensive plan, which was nothing less than founding an institution that should extend over the British Empire the influence of science and art upon productive industry. This institution was to be established in the metropolis, and to be rendered, by various means, capable of affiliating local establishments in this country, in India, and throughout our colonies, for the purpose of spreading, as widely as possible, the benefits of its labours, and keeping up a constant interchange of information between the parent institution and the various bodies with which it was associated. Not only our own people and dependencies were to share in the advantages conferred, but, with true cosmopolitan spirit, it was laid down that the citizens of foreign countries should enjoy equal facilities.

In the midst of their sounding periods, misgivings appear to have shaken the minds of the Commissioners, and they expressed themselves sensible of the fact, that the sum at their disposal was altogether inadequate to the execution of such a plan as they were contemplating. The aid of the State, and the public at large was absolutely necessary for its development and completion.

The first want was, necessarily, land on which to build, and this was found without much difficulty. It happened that a Commission,† appointed "to consider the question of a site for a new National Gallery," had reported in favour of the neighbourhood of Hyde-park and Kensington; and the Government had made some overtures for a piece of ground, situated at Kensington Gore. The negotiation was broken off, and the Commissioners (through the instrumentality of Mr. Kelk) obtained possession of the land for which the Government had been treating. This was known as the "Gore House Estate," and consisted of 211 acres, with frontage to Kensington-road of between 500 and 600 feet. The sum paid for it was £60,000.

Availing themselves of the ample powers conferred by the Crown in a supplemental charter, dated 2nd December, 1851, which allowed them to invest the sum of £100,000 in such manner as they might think fit, the Commissioners "hold lands and hereditaments in any part of Her Majesty's dominions, and to apply or dispose of them" at their own pleasure, the Commissioners passed a resolution authorizing the outlay of a sum not exceeding £150,000 in the purchase of land (including their first purchase), on condition that the Government engage to recommend to Parliament the contribution of a similar amount, for a separate, or joint account, or for division, as might afterwards be determined.

Having obtained an assurance of support from the Government, the Commissioners next turned their attention to the land adjoining the Gore House estate, and bought 48 acres of the Baron de Villars for £158,500, paying down a deposit of £15,850.

In fulfilment of the promise given by the Government, the Chancellor of the Exchequer (Mr. Disraeli), brought the subject before the House of Commons (6th December, 1852), and Parliament granted £150,000. Eventually the Commissioners obtained a private Act to enable them to stop certain rents and make one on their property; and they were enabled to advance a further sum of £150,000, retaining in their hands a balance of £21,000; for current expenses and contingencies. Application was made to Parliament for a contribution, supplemental to the original vote, and a grant was made of £25,000, which was subsequently increased to £27,500. Thus a total fund of £342,500 was raised, of which £177,500 was voted by Parliament, and £165,000 supplied by the Commissioners.

\* Museum Bill—Appendix N, Fourth Report presented to the Government, 1842, 1b. —Dingwall N. & Co. Report.

† Lord Seymour, Lord Colborne, Sir Charles Eastlake, Mr. Ewart, and Sir Richard Westmacott.

‡ The Exchequer Surplus was £186,436 18s. 6d.—Third Report.

The extent of land secured was 86 acres.

Acres.	Cost (including interest)	Average per acre (in round numbers.)
Gore House Estate..... 21	£10,254 7 8	£490 00
Villars do..... 47	155,729 11 9	£3,300
Harrington Estate and houses in Gore- house do..... 17	.....	.....
Total..... 85	.....	.....

Inconvenience having arisen from the joint tenancy as well as from inaction, the partnership between the Government and the Commissioners (in whom the legal title had been vested), was dissolved with mutual consent by means of a Bill, brought in by the Chancellor of the Exchequer and Mr. Spooner, and which received the Royal Assent, 12th July, 1858, by which this Act the lands of the Commissioners were released upon repayment by them of the monies granted in aid of their funds.

The monies set forth in the Act as due consisted of the Parliamentary grants before mentioned, together with a moiety of the net rents received up to 31st March, 1858, amounting to £5,779 4s. 2d., and made altogether the sum of £181,279 4s. 2d. Under clause 2 of the said Act the Government retained the piece of land, containing 12 acres, in the occupation of the Department of Science and Art, together with the buildings thereon, known as the South Kensington Museum. The value of these buildings was £560,000, and the Royal Commissioners repaid the difference, or £121,279 4s. 2d., with a loan from the Commissioners of Greenwich Hospital of £120,000 at 4 per cent., on mortgage of their estate. In order to defray the yearly interest, the outlying portions of the property, four in number, and containing 12 acres, in lots of, respectively, 3½, 3½, 5, and 1½ acres, were sold on the following leases.

The estate is thus distributed:—

	Acres.
Retained by the Government for the Department of Science and Art.....	about 12
Lent to Horticultural Society.....	" 22
Lent to the Society for the International Exhibition of 1862.....	" 101
Outlying pieces lent for building purposes.....	" 12
Devoted to roads.....	" 10
Unappropriated.....	" 15
Total.....	86

The space which remains at the disposal of the Commissioners lies partly along Prince Albert's-road on the west, Kensington-road on the north, and Exhibition-road on the east, of the main square at the corner of Kensington and Exhibition-roads a small property of two acres, belonging to Lord Auckland, called Eden Lodge, incloses.

The acreage of the unappropriated land is as follows:—

Prince Albert's-road	Frontage (about)	Acres.
Kensington-road.....	N. "	21
Exhibition-road.....	E. "	3½
Over the entrance to the Horticultural gardens, which would have to be arched over.....	W. "	1
Total.....		15

In a Parliamentary paper, ordered by the House of Commons to be printed February 15, 1860, is a report from a Special Committee of the Trustees of the British Museum. It is there assumed that a site can be had at South Kensington for £5,000 an acre. The joint ownership was cancelled in January, 1859, and from that time the Commissioners have had an absolute right to dispose of this land on any terms they please. When their attention was called to the above-given statement, they considered what sum they would be prepared to take for these (or any portion of these) 15 acres, if application were made to them, and they decided to ask £10,000 an acre, and £5,000 per acre for that part—a quarter of an acre—where the necessity of arching over the ground under the agreement with the Horticultural Society would leave no ground for open space available. The marketable value of the land would, it is believed, be undervalued at £20,000 an acre; for a piece of about 2½ acres, on the west side of Prince Albert's-road and south of Gore-road, is let on lease for 99 years at a ground rent equivalent to £20,000. Here the frontage was valued at £3 per foot by a depth of about 200 feet, and that on the east side of Prince Albert's-road is considered to be also worth £3, whereas the frontage to Kensington-road cannot be put at less than £4 a foot by 200 feet deep; so that, adopting the same proportion, the value per acre would actually be £26,000 or £27,000; and this for land which was bought ten years ago at £5,000.

The main square of the estate, bounded by the four great roads, contains about 55 or 56 acres, of which 53 belong to the Commissioners. The remainder, about 2 acres, is (as already stated) the property of Lord Auckland, and situate at the north-east corner, fronting to Kensington-road.

The property is laid out upon the principle of erecting buildings round the border only of the square, leaving the centre unbuild upon. The latter, to the amount of 22½ acres, is let to the Horticultural Society on a lease of 31 years from the 1st of June, 1861, at a contingent rental if they earn profit. The lease is renewable for a further term of 31 years on application being made two years previous to the expiry of the

first term. In case the Commissioners decline to renew the lease they are to pay to the Society, by way of compensation, a sum of net less than £15,000, and which, in certain contingencies, may be greater. The Commissioners, having undertaken to erect arcades and execute earthworks at a cost of £250,000, paid this amount in a second mortgage loan from Greenwich Hospital, at the rate of 4½ per cent. interest.

The 16 acres lent to the Society of Arts for the International Exhibition, are granted, rent free, up to the 31st of December, 1862, and will be reserved for another Exhibition in 1872, on payment of £10,000. A plot, on which stand the picture galleries facing Cromwell-road, is let on lease for 99 years to the Society, on condition that the permanent buildings shall be used solely for holding exhibitions, that they do not cover more than an acre of ground, and that they have a sum expended on them at first of not less than £20,000, to be increased, if required, by the Commissioners, to £50,000, at the close of the Exhibition, in order to give the facade a suitable architectural character, and to avoid any disfigurement of the estate. The Trustees of the Exhibition subsequently obtained four more acres between the Horticultural Gardens and Prince Albert's-road, with the stipulation that they should build permanent walks to two arcades and a roof to the south arcades in place of the temporary structures which the Commissioners had agreed to erect. In consideration of the saving effected, the latter have agreed to credit the Trustees with a sum of £1,300, if the Exhibition of 1862 should yield no profit.

Mr. Browning, in his evidence before the Committee on the British Museum, speaks of the cost of the estate as £5,000 an acre. It will be seen, from the items already given relating to the Gore House and Villars estates, that 69 acres were bought at rather more than an average rate of £3,000 an acre. With the plan before one, it is impossible to be blind to the fact that it is precisely the two just mentioned properties with which the public will have to deal, if at all. The nation could have had—indeed, the last cost has exceeded £5,000 on the average over the whole property; still, here is an advance of price to double the amount. We are to pay £10,000, and this (as we have seen) is half, or less than half, the marketable value.

The Commissioners say that they "offer the land at a lower price than the market value, because they consider the British Museum to be an important national institution. If Parliament wish to remove any part of the collections to Kensington, the Commissioners are anxious to afford every facility in their power, and feel that they should not deal with the question as the Government alone give it." Yet the sum asked has something exceedingly like a "mercantile" look of 100 per cent. profit. The Government can most certainly be alleged to be perfectly free from any commercial taint, for they have evidently, somehow or other, made rather a dubious bargain in the public interest.

It should be borne in mind that the money spent on the Commissioners' estate has been applied in the most extraordinarily profitable manner. The outlying land is let on building leases for ground-rents which pay the interest of the loan from Greenwich Hospital. It is calculated that the fee simple of them would, if sold, produce £120,000. The main square is valued at £500,000. Here, then, we have the enormous amount of £620,000, exclusive of the 12 acres retained by the Government, and which are now supposed to be worth £100,000. The utmost penny that the estate has cost has been £382,051 13s. 9d.\*

\* We have been at some trouble to prepare the following:—

Account of the Receipts and Expenditure of Her Majesty's Commissioners for the  
Exhibition of 1861, from 1st March, 1860, to 31st December, 1861.  
[1st half and fourth Reports.]

RECEIPTS.		£	s.	d.
1859, February 29.	Balance from general account being surplus fund carried to estate account.....	186,498	10	0
1860, January 12.	Value freed by the Lords of the Treasury for the land retained by the Department of Science and Art.....	120,000	0	0
1860, April 27.	Loan from Commissioners of Greenwich Hospital.....	50,000	0	0
1860, June 31.	Rents, &c., received to this day..... £11,284	6	8	0
1860, January 12.	Debt moiety of rents paid to Government up to 31st March, 1860. (Apt 21 and 27, Vict. &c.).....	8,879	4	2
		9,064	16	1
		£454,591	14	7
PAYMENTS.		£	s.	d.
1860, December 31.	For purchase of land, house, &c..... £219,504	16	8	0
	For making roads and improving estate.....	15,184	7	2
	For surveyors' charges, Parliamentary and lab expenses.....	7,796	6	4
		6,218	0	0
	For interest on mortgage loan.....	727	15	5
	For loss on sale of Brompton Hill.....	6,970	15	7
	For museum building and collection of animal products presented to the Government.....	7,478	12	0
	For printing, office-expenses, salaries, wages, &c.....	4,677	2	0
	For repairs to houses.....	£ 921	16	0
	For taxes on houses.....	1,617	16	8
		1,741	13	11
	For outlay on arcades on account of contracts.....	24,290	0	0
		392,061	13	9
	By balance, cash, and securities.....	47,450	10	0
		£439,511	14	7

\* A portion of this land (on which the houses called Queen's-gate-terrace are built), is exchanged for land belonging to the Prince of Wales in Kensington-road, called the Gore-house.

† Four more acres were afterwards allowed to be temporarily taken for the museum.

‡ Found evidently on the price allowed by the Lords of the Treasury for the space in the occupation of the Science and Art Department.

§ Probably this decision applies only to 8½ acres, or thereabouts, which are talked of as required for the British Museum.

Our opinion as to the removal of any portion of the British Museum Collections to South Kensington has been so recently given that we need not here repeat our objections. It is very possible that we have been looking at the silver-side of the question, the point of the shilling public. Truly, in pass over to the golden-side—shall we say with the guinea folk?—is in the sensible of a decided change in the effect produced on the mind. What can be more agreeable and delightful than to drive from the Park to the Horticultural Gardens, and stroll through the grounds in gentle summer weather, and the building looms, we begin to recognize the promise? When satiated with the garden to lounge and eat ices in the arched, and thence to pass in the picture galleries in Cromwell-road; or, if the Natural History Collections shall be transferred to Kensington-gore, to gratify yet another taste: how very pleasant is all this! Let us not omit the South Kensington Museum, with its multitudes of pictures, and the British Library, can be moved to the same spot, and present towards the Park its (undisguised) grandiose front, we know of no aristocracy that would be so well provided as our own with all that appeals to the finer and more cultivated feelings of a humanity, which (we could almost doubt that) they share with the toilers and workers of London.

Be it so. But let us make no pretence about consulting public convenience. Why not boldly confess that we held a Great Exhibition; that a large surplus fund was built up of the contributions of the people; that we talked and potted, potted and talked, till, at last, we contrived the most charming places of recreation, and the healthiest, within the closest neighbourhood of their usual gay haunts; that we went to Parliament and charmed to sedate the senators, who, though they arrogate to themselves the title of the people's champions, yet raise their bold voices in every place but the right one; that we moved our national collections of pictures and natural history; that we moved our national collections of books, and that we moved our national collections of minerals, that we actually succeeded in making everybody believe that we could do and did all these things for their benefit, not in the interest of a section, but in that of the whole public?

Our columns may yet have in record the successful, though gradual, prosecution of these schemes which appear to be ripening. When we remember the mighty might of the nation, having pain and will infallibly be brought to bear, the issue seems no longer doubtful. Well, we shall have had the satisfaction of having uttered our protest, and shall enjoy the consolation of knowing that, in the last, we denied and denounced the invasion of the centre of London.

#### NOTES FROM THE PROVINCES.

**Hereford.**—The Corn Exchange of this City has just received the addition of a clock turret, fitted up with illuminated dial. The upper portion of the turret contains the bell, and is surmounted by a figure of "Ceres." The total cost of the works is about £250. Messrs. Elmslie, Francy, and Hudson, architects, designed and superintended the works, which were executed by Messrs. W. and J. Mersey Docks. — On the 10th inst. the directors of the same company the Mersey Dock Board on Thursday agreed to construct a new warehouse for the corn trade, and new graving docks on the Herefordian estate, at a total cost of £100,000.

**Nottingham.**—The directors of the Ancient Order of Odd Fellows, some time since, determined on erecting an Imperial Hall for the purposes of their Order in Nottingham; the building to be also available for musical concerts and public assemblages. The site selected is at the junction of Sheep-lane and Upper Parliament-street. The frontage to Parliament-street will be upwards of 140 feet, and to Sheep-lane 100 feet. A by no means inconsiderable advantage which the building of the hall holds out, is the opportunity of improving the approach to the Market place. The building is to be Italian in character, having a series of bell-towered turrets at the corners, enclosing the staircases—of which there will be four. The principal front will have on the ground story an arched entrance of three openings, leading to a vestibule, given access to the two principal staircases. In the east front, there will be eleven shops, divided by rusticated pilasters from which spring semicircular arches. The division between the ground and upper story, is marked by a Doric cornice, with carved consoles, and triglyphs. There is a series of eight Corinthian pilasters and columns on the upper story of the Parliament-street front. The towers are somewhat higher than the adjoining building. The roof will be a conspicuous feature. The rigging of the main roof having open iron work, partly gilt. The whole exterior will be faced with best pressed bricks and terra cotta, relieved by the original, but the exterior stone has been decided upon as being not affected by the acids of the atmosphere of towns, and as being very durable. As to the interior: on the ground floor, occupying the space not devoted to the shops, will be a room capable of accommodating four hundred persons, and less than sixteen feet high. The rest of the space not occupied by staircases will be divided into rooms available for the purposes of the order. The accommodation in the upper story will consist of a large room, capable of seating 2,500 persons, and about 140 feet long by 60 feet wide. At the south side there will be a room for the organ, but no orchestra will not be recessed. On each side of the hall there will be a gallery which, at the Parliament-street, or north end, will extend over the entrances from the staircases. The front of the gallery will be covered. The orchestra, instead of being entered from below, will have the approach from the gallery staircase, at the south end. The ceiling will be slightly coved at the sides and ends, and deep panels and projecting mouldings will be avoided, "so that nothing will impede the transmission of sound in the unbroken volume to the furthest parts of the hall." Mr. Bakewell is the architect.

**THE ALBERT STATUE AT LIVERPOOL.**—We mentioned some time ago that the Corporation of Liverpool had voted a sum for an equestrian statue to the Prince Consort. The commission to execute this work has been given to Mr. Thornycroft.

#### MEDIÆVALISM AND BEAUTY.

**B**EAUTIFUL, undoubtedly, are the Mediæval works. There is beauty in their plans and general forms; there is beauty in the most characteristic and prominent features, such as the pointed form of their arches and the intersection of the ribs of their vaulted roofs. Springing from the stem-like roosting shafts, and gracefully bending, like the leaf-laden boughs of a tree, to meet each other half-way, beautiful are the leafy bosses which adorn the union of these meeting members; beautiful are the tiles that lie beneath our feet as we solemnly enter the church; beautiful is the glass saint enriched, that glazes the choir, and the stalls, beautiful, on the whole, is the carved foliage that adorns the capitals and other parts of these wonderful buildings; beautiful is the expression and religious sentiment of the sculptured figures. That all these things are beautiful, no one can feel more than I do; but yet in this present age it is useful to point out that, in thinking old work or old principles better than new, we may have been misled by a false standard, and that in designing a Gothic building we have a choice to make. And what is that choice?

A few years ago we necessarily were bound not to design any building so as to use any ornaments in the details for which we could not find a precedent, for we were then learning the true spirit, and feeling of the style. We now, having accomplished a great degree of perfection in copying or reproduction, have arrived at taking rather the principles than the actual ornaments. We design, i.e., really originate, new forms of buildings with new forms of ornaments in the Gothic manner; this is our present aim. What is, then, the choice? The choice is, in designing such buildings, last to make? It is in the property or qualification that the building shall possess when it is finished. Will our end be fully accomplished when our building is finished, when the last scaffold is removed from above the apse, if that building is in every respect, as regards its form, its kind of ornament, its general effect, its proportions, a Gothic building? Or shall we be not satisfied unless every form, every detail, every sculptured figure, every carved leaf, pleases us as artists; every colour not according to some ancient rule, but in accordance with the very latest investigation of the harmonies of colour, and the laws which cause the varieties of colour in nature? Or, in other words, our choice lies between Mediævalism and Beauty?

Are we such strict antiquaries that the style of ornament that pleased the architects of the thirteenth century necessarily pleases us? or are we so keenly alive to the beautiful that we quickly see that in designing a similar building to those that have been built before we are, in fact, that there is no room for improvement? And so, whereas the two things—correct Mediævalism and artistic beauty—seem to clash, we should instinctively throw over the Mediævalism to obtain the beauty.

In visiting some of our best nineteenth-century Gothic buildings, I think few unprejudiced observers can come to any other conclusion than that in their design and construction they are certainly Mediæval, and that even in the most beautiful and the most original of such works that great improvement would have been seen if many of the ornaments had been submitted by the designer to the test of his own unbiased taste and artistic genius as to whether they were really beautiful, and whether they were really in accordance with the principles of beauty as once admitted into his building without examination because strictly in accordance with Mediæval principles. To explain, perhaps, more clearly what I mean, let us take a few of those architectural features that are more particularly open to the loss of the beauty they might possess, on account of either the habit, or the deliberate choice of Mediæval example for their form, in silhouette, or in defiance of the laws of nature.

Take the capital of a column or pier, even in so important a position as supporting the chancel arch. Artistic feeling would say, choose the most beautiful, the most pure, the most holy forms in earth or heaven for such a position, and, indeed, in many great examples Mediævalism says and does so too; but in other instances Mediævalism says, put two ugly monsters entwined together, singularly ugly and inappropriate for ornaments to capitals at all, especially in the place that I have mentioned, yet in some modern cases beauty and feeling have been rejected and the quaintest Mediævalism chosen.

Is it window tracery, an architectural feature unusually capable of beautiful treatment, and affording wonderful opportunity for original and artistic design? How often do we see buildings, otherwise beautiful, disfigured by forms of window tracery having no artistic beauty at all, and no merit at all, except being similar in actual form, or else in principle, to those in some inferior Mediæval building, for the chance that ours are in the hands of the artist, and we have no right to be good, and had in some degree, even if by the traditions or means of handing down the art varieties of work were not so great as they are at present.

In plate tracery especially the artistic feeling for beauty of outline is more particularly called into play; the forms of the bright devices, or more particularly called into play; the forms of the stained glass, or, in some cases, the coloured glass, are so important when seen from within the church; and the form of the dark stars or flowers, as seen from the exterior, require all the careful and experienced skill of the artist. I do not say that you will not find some of the very best and most beautiful forms for these purposes in Mediæval work, but I do say that if you are in the habit of taking your form from the past, you will not be sufficiently considering whether they are beautiful, or have sufficiently determined to make beauty your object in the selection, you are very likely, owing to your antiquarian prejudices, to produce a result which will be quite the reverse.

Then, with figure sculpture, no doubt that Mediæval expression as found in the sculpture of those times is good; no doubt that that it is, in its deep religious feeling and purpose, a thousand times better than that of the











fort; but it happens to few, and, as a general rule, it is safe to be warned by the venerable axiom, *Ne autor ultra eripiam*.

Pan IV. died in 1500;—but it is, five years after resuming the left-off walls of this predecessor; but the work was not completed until Pius V. left the empire in the finishing a number of Turkish captives taken at the battle of Lepanto, 1571, but the circuit never went beyond the gate of the S. Spirito. As it stands now, firm and unshaken, it is three miles round. The gate near the Porta d'Angelo is closed. The *Arco della Pace* gives access to the Borgo from the roots of Monte Mario and the north. The Porta Pertusa—called also the Viridaria, because it led into the papal gardens—is now shut up. The Porta del Solario, so called because it was the place of appointment for the southern side of the Basilica, and the Cavalleggeri, because it was near the quarters of the Pope's body-guard. Such is the present circuit of that magnificent city, marked out with admirable precision just three centuries ago to be the seat of an empire which was to carry, and an obelisk of splendour which all must admire. The city I have described is complete in itself; it has thirteen principal streets, besides lanes and alleys, and open spaces; it contains twenty churches or chapels, independent of sisterhoods, fraternities, and charitable institutions; it has a court, sufficient for foreign ambassadors. It contains the never-ending compartments of the great museum, the Pontifical Palace and gardens—

"The dome, the vast and wondrous dome,  
To which Diana's Temple was a cell."

It may still have its Girandola and two fountains, with the courts and offices of the Holy Inquisition, and the magnificent colonnade, in the centre of which stands the monolith we want to imitate; and there is a peaceable and devoted population of more than 3,000 souls living to dwell under the shadow of the Vatican for an occasional benefaction. Who, after having known the vicissitudes of all the Pises up to the eighth, would not desire to be the ninth. Pius the Third, Fourth, and Fifth consumed their days in building walls and fortifications. Braccio Pius VI. was driven, for protection, to Vienna; Pius IX. was a captive in St. Peter's; but the last of the Napoleon; and Pius VII. was in Paradise in two years; but the last of the Papes has not offered any great and vast revenues, and no one to interfere with the commemorations of twenty-five Japanese martyrs; but these matters do not belong to us, who do not come here for building materials, but to see the temple, and to see the obelisk of ancient fortifications which will secure all contending parties within their own limits.

There stands within this city, of which we have now given the history and description, an obelisk, which is one of the king of Egypt's recently acquired national interest; of course, I mean the obelisk in front of St. Peter's. As we are, by favour of the Institute and its generous President, to have a reprint of a paper, and discussion thereon, with regard to obelisks at Rome, it would be unpardonable not to refer to it. It is so difficult to find any obelisk in the city of Rome, and Leonine City. But a few words, perhaps, will be allowed me in collecting all the information we can as to the mode of erecting those monoliths which are now standing. Perhaps the obelisk affords most for our purpose. First, it is the largest mass of granite at Rome, except one, that of the Laterane; its weight was calculated at 331 tons. The length of the shaft is 80 feet 9 inches, the width at the base 8 feet 4 inches, contracting to 5 feet 8 inches at the pyramidion; in the basement and ornament at the top are included the entire length is 127 feet 6 inches, which, I presume, will be enough for our affair. In the next place, it is a genuine Egyptian obelisk; it has no hieroglyphs upon it; and we are not aware of the existence of any unsculptured obelisk ever erected in Egypt. The obelisk of Philo is not received in the same manner as the obelisk of Philo, and there can be little doubt that this monolith was cut by order of Caligula, in the quarters of Syene, and dedicated to the memory of Augustus, but actually set up in the Spina of the Circus of Nero. From that destination it was never moved until Sextus V. had it conveyed to where it now stands; four months were consumed in moving it 300 yards; you all know how and by whom the great work was effected. We shall want a Fontana and a vast quantity of ropes, when we have found the granite mass. We shall want a large crane, and a great number of Syene, in upper Egypt. You are aware that Syenite is distinguished from common granite by having horrible in the place of mica; it will be impossible, perhaps, to obtain the warm red granite which we generally associate with the idea of an obelisk, but if any of our native granites can produce a more ornamentable obelisk material, and any of our native granites set it up in its place as a memorial to all generations, we shall be proud of the achievement, and successive generations will learn in that stone that "the memory of the just is blessed."

**STONE-CUTTING MACHINE.**—The *Arbroath Guide* describes a machine, which is to put an end to masons' strikes and nine hours' movements.—There is now in process of completion in the establishment of the Messrs. Munro, founders and engineers, Arbroath, a machine which will revolutionise the mason work of the present day. It is to perform with speed, accuracy, and regularity of finish nearly the whole of the mason work—beating, dressing, and now executed by hand. It will dress and polish stones, and do almost everything appertaining to plain masonry. It is believed to be an ornamentation quite unique. This machine is an amplification and completion of the inventor's idea that seven years ago found expression in the ridge-dressing machine, which was then patented. It is a machine of iron, made, as Mr. Hunter saw and has been working out this new and greater scheme.

**STAINED GLASS.**—ST. STEPHEN'S, WALBROOK.—Four of the larger and sixteen small windows in the church have recently been filled with stained glass by Mr. Gibbs. The four large windows consist of two at the west end, on each side of the organ, and two at the east end, on each side of the altar, ornamentable. The smaller ones fill up the oval windows. The subjects of the new windows are illustrative of the chief acts and sayings of the Saviour. The large windows have the Nativity, the Baptism, the Crucifixion, and the Ascension, and the main figures the life of the Virgin Mary. The smaller windows, on the south wall, the Miracles, and on the north the Parables, and include Turning the Water into Wine at the Marriage-feast, the Raising of Jairus's Daughter, the Resurrection of Lazarus, the Miracle of the Loaves and Fishes, the Healing of the Sick, Walking on the Water, the Prodigal Son, the Pharisee and the Publican, and the Good Shepherd.

#### ROOD-LOFT, ST. DAVID'S CATHEDRAL.

The Cathedral of St. David's, though not equal in size to many of the others, and comparatively little known, is equal to most of them in interest, though, perhaps, of a melancholy kind.

Few scenes can be more solemnly interesting than this on an autumnal evening, when the sun is just setting, and the traveller, having passed through the humble village, dignified with the name of a "city," finds himself on the brow of a rugged hill, and sees suddenly close below him a mass of buildings such as he has never seen around any other cathedral, and of which his imagination never dreamt, but all of which appear to be struck by lightning, and hence to be fast crumbling to decay.

In the centre rises the massive tower of the cathedral, built with the eastern portion of the building unroofed, and its aisles and walls open to the wind and rain. On the left, and surrounding the whole precincts, is the wall of the clove, with its solid gateway still entire. On the right is another building, entirely in ruins, the Colonnade of the Mary; and further west must once have been a magnificent pile, the Episcopal Palace, but now, like all the rest, entirely in ruins. Beyond all this are the rugged and sterile hills stretching towards St. David's Head, and over all the ocean itself.

It is melancholy to look on so much ruin, and one naturally feels inclined to inquire into the history of the rise and fall of edifices reared at so much cost on so desolate a spot, and standing, as they do, on the very confines of civilization.

We have not space here to enter into this history, and we only give an illustration of a small portion of the building as a specimen of the architecture attached to the Rood-loft.

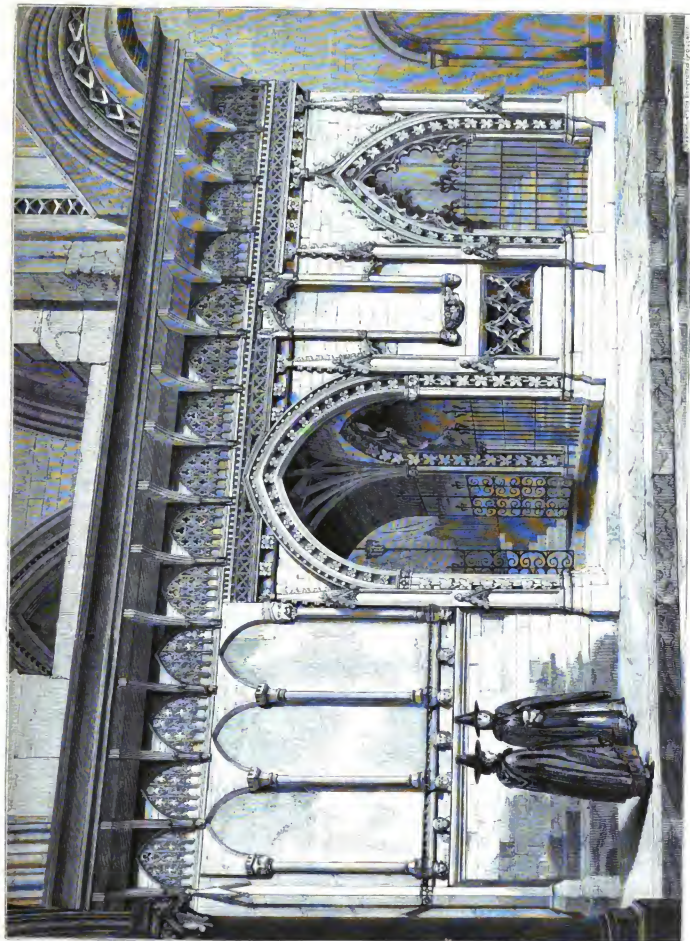
The rood-loft, which, as usual, divides the nave from the choir, is of two different dates, the principal portion—i.e., the central archway and the southern wing—being the work of Bishop Gower, between 1328 and 1347. This is very rich and beautiful decorated work. The skeleton tracery under the central arch is very remarkable. The comb of the bishop stands within the southern arch. The northern portion is of much plainer character, and of earlier date, and is, no doubt, a part of the original screen as it stood before Bishop Gower's alterations.

The costume of the heads in the cornice under the arcade is of thirteenth century. The screen is surmounted by two cornices of oak which was added in 1547; but the panels, which are filled with Perpendicular tracery, are the remains of older work, and the springings for fan tracery between them show that it must have originally been far different to what we now see. It is, however, suggested that this woodwork may have been brought from elsewhere.

A very curious and minute description of the rood-loft will be found in Messrs. Jones and Freeman's "History of St. David's," one of the most complete and valuable histories of a single cathedral which has ever been published.

#### PROGRESS OF THE METROPOLITAN MAIN DRAINAGE WORKS.

At the ordinary meeting of the Metropolitan Board of Works, held at the A. office, Spring-gardens, on Friday last, Mr. BAZALGETTE, the Engineer-in-Chief of the Board, reported that the continued and heavy rains which have occurred during the past months have been very unfavourable for the execution of the Main Drainage Works. The progress made by Mr. Furness upon the Northern Outfall Contract has, notwithstanding, been considerable, about £22,000 of work having been executed under this contract since the last monthly report made to the Board. The sewers are in course of construction in the river Lea at Bow and Barking, and the North Woolwich Railways and the plates are being riveted for some of the other bridges. The cutting through the Eastern Counties Railway embankment, the difficulty of which work is increased by the almost constant passing of the heavy traffic over it, progresses slowly but safely, and the two outside permanent brick piers are now carried up to the requisite height for the support of the rails, which now rest upon temporary timbers. The contractor's railway by the side of the permanent work has been temporarily closed to the public, and the contractors have been obliged to have the rails pushed forward between those points. The brickwork in the intercepting sewers and the foundation piers and arches through the marshes and peat soil, have made considerable progress, and the early value in the execution of the work is about £231,000. The general character and management of this work is very creditable. The Northern High-level Sewer, which has been some time finished and in operation, continues to perform its duty satisfactorily, and the engineer has recently settled the accounts for extensions and deductions on this. Messrs. Brassey and Co. have now completed about 25,000 feet of the Middle-level Sewer, varying in size from 4 feet by 6 feet to 12 feet by 9 feet in diameter. They have also completed about half the sewer under the Regent's Canal, and from the present state of the works it is believed that the completion of the work there is every reason to expect that they will complete this difficult portion of their contract without any further accident. They have, moreover, made good progress with the tunnel under Oxford-street, and are now preparing to raise the shafts and obstructions to be left in the excavation of the works from obstruction during the summer months. The total value of the work done by them is about £110,000. The weirs, overflows, and connections of the London and Westminster Storm Sewer, which was completed in 1859, on the Tabbidge-road, for the reasons stated in the engineer's last report, progresses slowly, but the work is of a very substantial character, and amounts to about £26,500 in value. All obstructions have been removed from Hyde-park and Kensington, and the ground has been cleared of the old works. On the Southern High-level Sewer, Messrs. Lee and Bowles have constructed about 80 miles of sewer, at an estimated cost of £154,000, but this contract has suffered considerably from the effects of the heavy rains, both by floods in the Broadway, Deptford, and the Kingsland, and by the falling of the ground at the junction of the south branch with the main line, but it is probable the



CHOIR-LOFT, ST. DAVID'S CATHEDRAL.





















## ART EXHIBITIONS.



THE present is an age of many novelties, and among its many remarkable characteristics we must certainly include exhibitions. We are familiar with the display of articles of all descriptions, natural and artificial, in markets and shops for sale. We can also carry back to early times the custom of collecting in one spot articles of luxury and beauty, with the object of adding lustre to some imperial court or some sacred shrine. We have, too, for long been accustomed to the formation of permanent museums and collections, where natural, scientific, or antiquarian curiosities may be preserved as objects of study and interest; and we can carry back to remote days the establishment, for similar purposes, of public libraries and reading-rooms.

Our modern exhibitions differ, however, from all these. They present a marked contrast to all museums, galleries, churches, palaces, and collections, because they are temporary and transient. They are, at the same time, dissimilar from markets, or such other collections of wares and valuables as are temporary (such as, for instance, the great fairs of the middle ages), by not being solely—in some cases not in this and some other respects they are also markedly distinct from shops, bazaars, and exchanges.

chiefly—established for the sale and purchase of articles exhibited; and in this and some other respects they are also markedly distinct from shops, bazaars, and exchanges.

The exhibition is, then, an institution of the nineteenth century, and as such interesting, as illustrating some of the characteristic peculiarities of the age in which we live. Let us examine a little into the nature of some of the sorts of exhibition now familiar to us.

The earliest, and the most important, exhibition to which we shall have occasion to refer, is the annual exhibition of the Royal Academy, the forerunner of many other annual exhibitions of painting and sculpture. This has always been and still is a temporary collection of works of art assembled together for the purpose of exhibition during a few months of the year, and then again dispersed. This exhibition has undoubtedly served very largely as a medium for the sale and purchase of pictures, but neither the artists nor the public have supported it solely, or even chiefly, on that account.

To the artist the exhibition is valuable as a means of bringing his works before the public, of gaining reputation, and in some cases—especially in the instance of men of rare genius and a noble temper—as a precious opportunity for showing or doing something noble or great, and for touching the hearts of spectators by some painted poem or scriptural story which, urged by the natural eloquence and enthusiasm of the artist, the ardent enthusiast cannot but proclaim, and for which he longs to get hearers. Of the spectators, not one in a hundred comes to buy or does buy; the intention is to see and to admire, and to be pleased, or to criticize and play the judge of art. And if there are here and there artists big enough to paint, not so much in order to win money as because they must pour out the overflowings of their rich genius and endless fancy, and cannot forbear, we believe that many of those who most value those annual exhibitions of works of art, among which the Academy is the earliest founded and the most distinguished, do so because of the opportunities thus offered of being elevated, charmed, or touched by the poetry that they can find in the works of the artists with whom they have special sympathy.

To bring the painter and his audience together is, then, the object of the modern system of exhibitions; out of this audience, one here and there may buy, but the many will only come to see, and it is on such an account that the many, one of the one or two, that the arrangement was made and is kept up.

The printing-press has been the chief means of bringing the author and the poet into contact with his audience; but the dramatist and the musician have always had to display their works, or cause them to be displayed, by recitation or performance before their audience, and it is to provide something of this sort for painting that art exhibitions have been originated.

It may be asked, however, why is it that in the Middle and Renaissance Ages when artists flourished greater far than ours, and when cities like Rome, Florence, and Venice contained crowds great enough to furnish such exhibitions with guests, no such exhibitions arose? The reply is twofold. First, the great and intellectual judges of art were probably then confined to an infinitely narrower range than at present, so that the wealthy, the educated, and the men of leisure could be seen in their own houses, or could see works of art in the studio of the artists themselves, and they having seen them, the artist's critical audience and those from whom his remuneration flowed were secure. Second, and chiefly, as far as related to painting for the people, or carving for them, or teaching them with the hand and the chisel, the artist of those days had an infinitely better channel of doing it open to him than our modernists, with all its improved civilization, can afford. When all the greatest works of art were executed in the service of religion, and were painted on the very walls of the church, or graven in its very fabric, what need, or what possibility, was there of any better mode of letting the picture tell its tale than painting it there,

from day to day, it was to be regarded with sentiments of awe and wonder something akin to worship, and was, amid the sacred objects of the sanctuary, to take its place as one of the appointed means of impression, instruction, or comfort?

The few artists of our own day and country who have the opportunity of painting such pictures as the Early Church pictures were, and of having such an audience as this, show, by their carelessness about exhibiting elsewhere, how much the value of order and of exhibitions is sunk, in their eyes, by the special opportunities they elsewhere enjoy. If we miss Cope, Herbert, Dyce, and some others from the Academy walls, it is because they paint pictures that will hang in a more congenial situation than any they could there find.

There is one very large class of pictures, and an essentially modern class, which would of themselves alone suffice to maintain our exhibitions, even if all our historical painters were away. Landscape-painting is eminently the growth of modern Europe, and can never become the appropriate decoration either of churches or public buildings. Such poetical landscape-painters as Turner, Danby, Crawford, and others, have established a magnificent school, which will always furnish works for which their producers will desire, not merely opulent purchasers, but many spectators, and the great advances landscape-painting has made has been one of the main causes which have contributed to foster the growth of our annual exhibitions of pictures.

Within our own day we have witnessed the establishment of the system of local, provincial, national, and international exhibitions of arts, manufactures, and fine arts. To an historian these will be significant marks of the wealth and intelligence of Europe, of the earnest desire of all classes for comprehensive information, and of the strong conviction on the part of the producing classes and of Governments that publicity and good taste are all important for the well-being of manufacturers and manufacturing states.

At this moment private individuals and foreign Governments are spending sums which, in the aggregate, will amount to many hundreds of thousands, and are despoiling articles of value of which will amount to many millions, in order to promote an International Exhibition of the most comprehensive nature; and within the next few months vast sums of money, and an amount of valuable time which, if aggregated, would seem incredible, will be devoted by individuals of all classes to the appreciation of this vast enterprise. Nothing is more remarkable than the purely voluntary nature of the whole. Of course, many individuals may here and there say with truth, that they are exhibitors or spectators not voluntarily, but because they could not help it; but the real pressure upon them, whatever particular form it may take, is really a pressure of public opinion; and we need not the whole mass of civilization, and we are very inclined towards such undertakings, no power could by any possibility, or with any amount of force, accomplish the tenth part of what is now being cheerfully and eagerly done by volunteers, or could approach to it.

It is not now our intention here to attempt to consider this very interesting subject of national exhibitions of arts, manufactures, and industry in all its bearings, or, in fact, to notice more than one solitary peculiarity which it presents, and which has to do with our subject.

From the scheme of the International Exhibition of 1851 the *fine arts* were excluded. This glaring mistake was far less palatable than it might have been, owing to the happy accidents that very many of the objects of industrial art exhibited were of a high class of artistic design, and that many works of fine art, particularly of sculpture, obtained admission by various side doors. Had this not been the case, and had not the interest and novelty of the undertaking been such as they were, we doubt that the absence of such a department as was supplied at Paris in 1855, and is to exist at Kensington, would have been felt as a great defect. Feit or not, it was a defect, and the fact of its being the principal addition to the scheme of the previous one is a significant collateral proof of our statement, that the exclusion of fine arts was a feature of the present day, and will probably continue so for long to come.

We may be thought to be passing from one extreme to another if we pass from the great collection at South Kensington, including as it will a comprehensive series of architectural designs, to the modest dimensions and claims of the Gallery in Conduit-street. The Architectural Exhibition, however, is peculiarly claims attention upon architects and artists, and we cannot more appropriately bring these observations to a close than by showing how well it deserves support.

The works of the architect are, it is true, usually such as when completed are either wholly or partly open to public observation; but the positions where they stand are quite beyond his own control, and many really fine works are so placed that unless they are known of and sought for by the educated public would even see them. While it is only by a laborious and careful study of many works that either an architect or an ordinary spectator can, without an exhibition, form a correct idea of the general course of the art from year to year. Now, this opportunity the architect has in an exhibition is established, and we are glad to say that now the number of visitors be but moderate, we may safely answer that it is only because the number of exhibited works is small also. Let every executed work of importance or remarkable design find a place there, and every amateur whose opinion is of any value will come to look at them.

The great stumbling-block is the necessity, as it is supposed, of making up showy, and consequently expensive, perspective drawings of any architectural object to be exhibited.

This necessity does not exist; it is quite true that spectators enjoy a



## ARCHITECTURAL EXHIBITION.

**T**HIS show of Ecclesiastical designs at the Architectural Exhibition, is, we should think, equal in point of numbers to what it has been on former occasions; but here its equality ends. One would imagine, from an inspection of the fifty or sixty designs in the Gallery, that the study of Gothic art had not only been checked but had actually retrograded to the starved, hard features of twenty years ago. There is none of that art to be seen which was carried north to the front at Lille and Hamburg, which confidently entered the lists against all comers at Westminster Hall, and triumphantly issued thence, to the Architectural Exhibitions of former years we have been able to measure the growth of architecture. It would appear that a blight has this year fallen upon the profession. Messrs. Burges, Clutton, Deane and Woodward, Seddon, Gilbert Scott, Norman, Shaw, Newfield, and others, who have heretofore made the walls sparkle with vigorous and healthy Gothic, and have their work now to scribble hands. The Classic men are equally neglectful or indifferent. Messrs. Coe, Garling, Allott, E. M. Barry, Owen Jones, and Digby Wyatt, are names looked for in vain in the present catalogue. We say nothing of the greater dignitaries of the profession. We are so surprised to see them in Conduit-street as we should to see prices mingling promiscuously amongst a crowd of working men, but we had a right to expect more than the "one halfpenny worth of bread to such an intolerable deal of sack" as is here provided for us. The church designs seem to have been prepared entirely after the old-fashioned prescriptions. A certain proportion of crockets, pinnacles, tracery, windows, pointed arches, buttresses, gables, and broche-spires are shifted put together with scarcely more art than is displayed by children with their geometrical toys. The studies of existing buildings, with one striking exception, are also unequal to those of former years. Mr. Vaughan sends, as usual, a collection of sketches. They are highly finished, but there is a want of vigour about them, and they occasionally go faulty, betraying the peculiar distortion of the camera lucida. Mr. Beazley's sketches in France and Italy are splendid specimens of pencil work, as well as of architecture. They are firmly drawn, unfinished, but sufficiently so to enable us to realise the grandeur of the different subjects. The points of view are, moreover, admirably chosen.

The design submitted in competition for Ranelagh Church by Mr. Sorby is spoilt by the chimney from the vestry, which runs up beside the tower. It is bad enough in form alone, but it would be even worse when emitting smoke. The buttress-shaped tower appears weak in its upper story.

A very bad photograph of Mr. Street's tomb to Major Holson, in Lichfield Cathedral, is exhibited by Mr. Earp. It neither does justice to the design nor to the execution of it.

The Chateau of Chambord, so frequently sketched, is still attractive to those who see it for the first time. It is a fine specimen of the style, but it is drawn in parts out of perspective. His tinted sketches of the Castle of Blanken, in Nassau, have the same merit of well-selected subjects which distinguishes that at Chambord.

The font to be executed in St. Matthew's Church, Bethnal-green, has a fine cut figure on its four sides, but the architecture to which they are attached is unworthy of them.

Mr. Hayward's chapel roof is a good specimen of the old hammer-beamed perpendicular roof. The principals rest on columns and corbels; bands of decoration run between them and at the end, which would doubtless cost some considerable money, and are of no value, being too weak in their lines and out of all character with the simplicity of the roof.

We have already alluded to the tasteless design of Messrs. Green and De Ville for the Unitarian Chapel at Hampstead. In it the architects have evidently been forced into an unbecoming style. It seems really foreign to them. They give us about the same idea of Italian Gothic as a boarding school Miss affords us of the French language. Educated to portray the "bold Roman manner," their hands seem cramped, and they stumble at the work which other men, differently disciplined, perform with ease.

Mr. Lamb sends a very instructive series of designs. His first design for the City of London Consumption Hospital has a broad mass of wall-surface which architects are generally so chary of giving us. The main window is deeply recessed, and obtains value from the broad shadows which it is capable of holding. Very clever also in its arrangement is the east end of St. Andrew's Church, at Aldwerk, and the little porch which forms one of his studies for proposed churches in the frame numbered 89.

The photographs of the St. Patrick's Cemetery, Low Leyton, Essex, by Messrs. Wilson and Nicholl, show some brick buildings with stone dressings, vastly superior to anything which unlimited competition procures for Protestant cemeteries. Economy has evidently been insisted upon, but Messrs. Wilson and Nicholl's are shining brightly through it. In fact, as some plants grow best in poor soils, so we think these gentlemen are more successful in treating simple buildings than they are in the more costly work visible in their drawings of the high altars in the churches of St. Charles Borromeo, Upper High-street, and of the Augustinian Friars at Limerick (59), not but that the true Gothic spirit exists in all alike. They are only inferior when compared with the same architects' work. The third sketch of altars has a heavy cumbersome support, which seems only necessary to support a pinnacle, which is a blot upon the design. In the cemetery the piercings of the stone for the lights are capitally managed.

Mr. Trocetti sends a sketch of the plainest of churches. It is evidently whitewashed, and has not a moulding or cusp upon it. It has no buttresses,

tower, turret, or other of the paraphernalia of the modern Gothic school, and yet we should be sorry to see it restored. It looks what it is—an unpretending village church, well suited for the countryfolk of Blakeney. It is, however, only a fraction of Mr. Trocetti's drawing, which consists chiefly of a huge poplar tree and a broad expanse of gally-plated flower beds.

Mr. Manning's chapel, at Hampton, is well proportioned, and in good taste. It has rather too large a display of colours in the material. Mr. Melf's design has been judiciously hung beside it as a foil to set it off.

The interior of Speen Church, near Newbury, is weak in design, as well as in representation. Pointed arches, round columns, an open roof, and enlaid bench ends, are therein put together in the ordinary stereotyped manner.

From similar threadbare features of church architecture Messrs. Francis have composed the closely resembling churches of St. Stephen's, Westbourne-park, and St. Mary's, Kilburn (57). Mr. Coe's St. Philip's Church, Kensington-road, exhibited by the colourist, Mr. Beetholme, and dozens of others which hang upon the walls, have the same faulty likeness. Passing the highly finished drawing of St. Asaph's Choir (62), we come upon a poor representation of St. Alban's Abbey, by Mr. Julian, and a fine drawing of a sculptured trefoil, by Mr. Edmondson. A couple of good subjects have been (in 68) inadequately treated by Mr. Baxter, and the back of Mr. Leonard's frame would have been as ornamental as the drawing in itself.

"Imitation," it is said, is the homage which vice pays to virtue, and the saying receives confirmation in Mr. Phipps' design for a church, (75). He has boldly taken the one step from the sublime to the ridiculous. He fancies, apparently, that Mr. Street's talent lies solely in his rapid etching, and has, consequently, taken great pains to produce simply a coarse drawing. He has borrowed the lovely spire-lights from Mr. Street's church of St. Giles, Oxford, but they fail to enrich the design.

It is painful to see in Mr. Burnes' design for a family memorial (78) how money may be wasted. There are all the materials for a work of art, except only the knowledge of a master to employ them. We would prefer a mason's headstone to such a memorial as this represents.

Mr. Shoubridge's two oil paintings of views in Florence show only how the Committee have been obliged, in their disappointment in those invited, to get out into the highways and by-ways to compel folks to come in and parade before the public. The drawing of St. Mary's, Greenwich, by Mr. Goldie, is, we believe, the best we saw here two years ago. His studies for portions of the interior of Arundel Castle are likewise, we think, no strangers to us. They are, however, excellently designed in parts, and we are not sorry to have another opportunity of examining them.

Mr. Drayton's lithograph of St. Stephen's design for the proposed interior of King's College Chapel, makes us wish to see the enlarged drawing from which it was taken. It appears to be in that style which Mr. Scott has so successfully used at St. Michael's, Cornhill. The roof has semicircular ribs resting on columns and corbels, is open to the rafters, and has panels between them filled with coloured ornament. The walls are enlaid, and coupled columns support the arches which divide the nave from the aisles.

Mr. Hayward's design for the Congregational church and schools at Plymouth, are not equal to that of his smaller works. The idea is good, especially of the schools, and a vein of original thought pervades it, but it wants a considerable amount of reconsideration and study.

136 is another design in which Mr. Street's spire-lights at St. Giles's have been introduced. One good point in this design is the avoidance of meaningless and useless buttresses.

Mr. Wimples' designs for cemetery chapel are designed upon a business-like principle to suit the limited intelligence of a local board. The money to be expended is divided equally between the two chapels, to secure the interest of the dissenters. Even a turret is given to the dissenters' chapel. It is a very good plan to work upon when the main object is to be successful in the competition.

173 was likewise submitted in competition for the Plymouth Congregational Church. With one-half the amount of work it might possibly look twice as well.

There are some good pictures in the dissenters' chapels of the Walford and Inverchesters designed and carried out by Mr. Henry E. Cooper. Mr. Robins exhibits a photograph of the Croydon Cemetery chapel, of which we saw drawings some years ago. Mr. Seddon, although he exhibits no design, contributes two or three masterly sketches of some good stained glass. That from Rheims Cathedral is particularly fine. It is quite refreshing to see a Greek monument built one day. Mr. Edward Richardson has designed one tastefully (308), and although it contains no great amount of originality, it has as much of that quality as three parts of the designs by the Gothic men, who will, as a matter of course, condemn it utterly. The Union Chapel at Highbury must have been a shocking eyesore, and has been improved by the alteration exhibited in Messrs. Wilson and Nicholl's drawing (309).

Mr. Croft has put a new roof to the parish church of Sluickburgh (311), without destroying its character,—no trifling accomplishment in these days. It is one of the first parish churches which we have seen which has not been actually ruined by so-called restoration. The design of the pulpit at St. Matthew, Bethnal-green, is far more successful than the font of the same church, which we have seen elsewhere (226). The octagon stage of All Saints' Church tower, Kensington-park,—is one of the best and most useful drawings in the Exhibition. It is drawn to a half-inch scale, and clearly



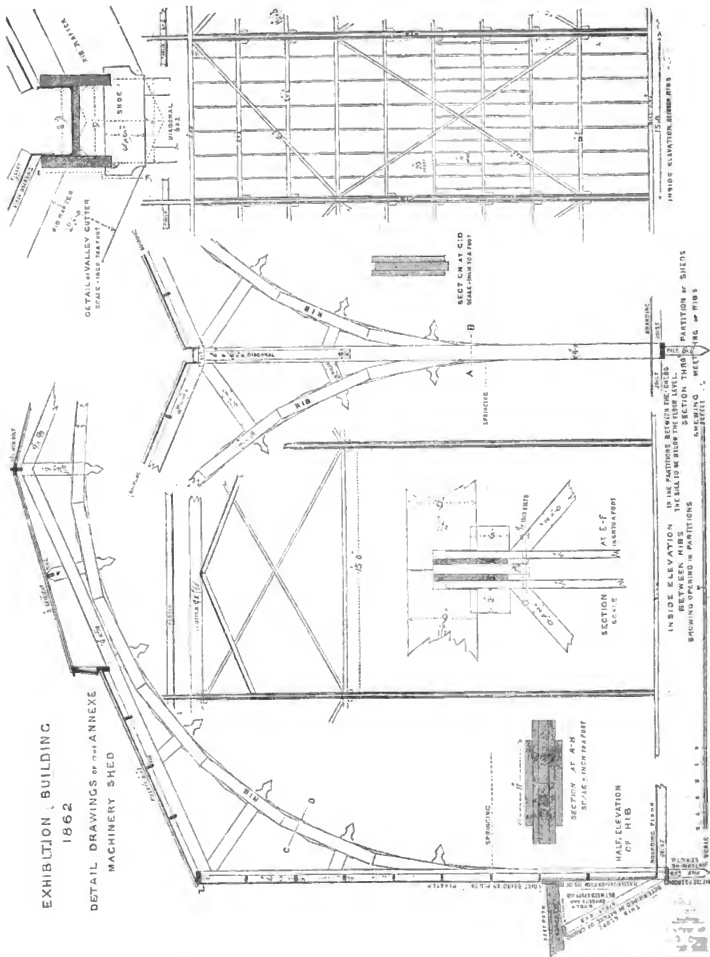


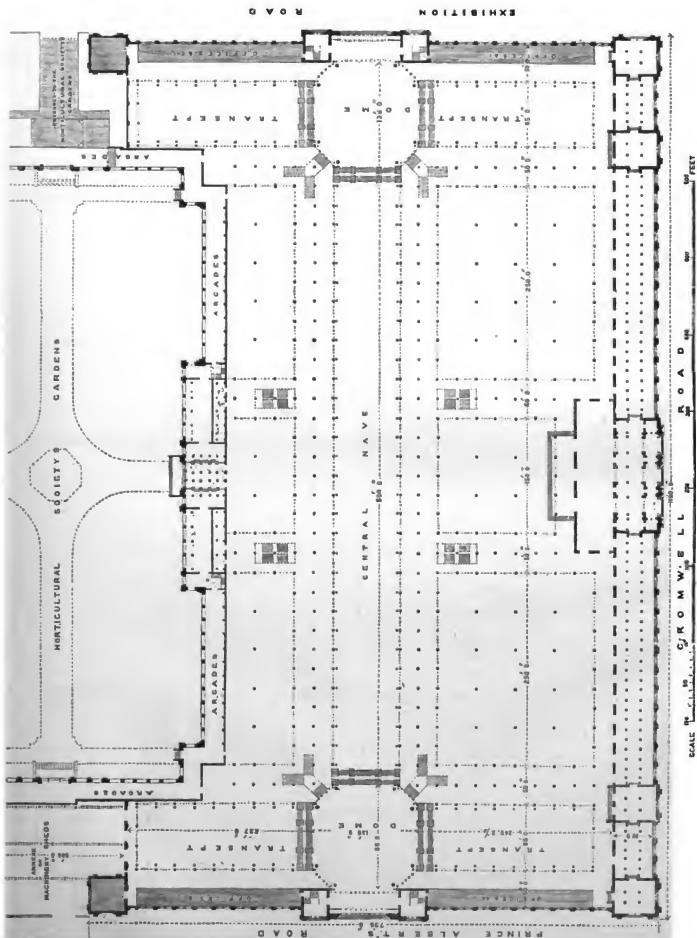


# EXHIBITION BUILDING

1862

## DETAIL DRAWINGS OF ANNEXE MACHINERY SHED





PLAN OF THE INTERNATIONAL EXHIBITION BUILDING.







## ARCHITECTURAL MUSEUM.

As we briefly announced in our last, the Rev. Lord ALWYN COMPTON delivered a lecture, on April 8th, in the theatre of the South Kensington Museum. "On English and Continental Antiquities" was the subject, illustrated by many drawings of tile patterns, and of the pavements to be found in various edifices throughout the country, and the chair was occupied by Mr. A. J. B. BERNARD-HOPE, the president of the Architectural Museum.

Lord ALWYN COMPTON, having introduced the subject by the president, said he had been requested by the Committee of the Architectural Museum to give a lecture on encaustic tiles and tile pavements. When first asked he was unwilling to accept the invitation, first, because it was a dry subject, although any antiquarian might, and he himself might, find it interesting; and secondly, far away from it. In that point of view, tile might be made interesting in reference to the heraldic theory of ornament, and in some cases might have an effect of history, but he was not prepared to accept the invitation of the committee, was that, some years ago, he had the pleasure of giving a lecture on the same subject when the institution assembled in a garret in Cannon-row, and since then he could not say he had added much to his knowledge on the matter. He could speak of encaustic tiles first in an antiquarian point of view, such as studying old churches simply for their own sake; the practical view was how they were to make use of them in their churches and secular buildings. In examining any subject in an antiquarian point of view, the first thing the antiquary wanted was his date, without which his inquiry was of no value at all—he must first know the dates of his examples. In fixing the dates there were many difficulties. They might go into an old church, such as the cathedral church at Gloucester, where there were a great number of encaustic tiles, and he would find it was very difficult to say what date it belonged to. He thought the first step in settling the date of tiles was to classify the tiles into sets, that was, a class of tiles of a given date, and of the same manufacture, and then to find out whether there were two or three things to be borne in mind. The first thing to show the tiles belonged to a certain class was that of their being used in the same original pavement. All the tiles occurring in a particular arrangement were put down, he presumed, at the same time. When he found a particular tile in a particular arrangement in the same arrangement, he assumed they were of the same date and of the same manufacture. But there were exceptions to that assumption; there were cases where one tile of a set had even been met with while the others were not, from which it might be thought the majority were made and put on at the same time, but he would kind of tile. It was clear, therefore, that tiles having the same arrangement might yet be of different dates. The similarity of patterns was another way of fixing the dates and of the manufacture of tiles. When they found in a church fifty or forty patterns, and others of the same pattern, they might infer a similar character, they might conclude they were of the same date, and by the same manufacturer. Having arranged the tiles in classes of the same date and of the same manufacture, the next step was to find out the date of the tiles. The first thing was to date them, and there were various ways of fixing the dates. First, there were a few tiles that had got the date on them, as at Gloucester. There were other tiles which were marked with the date of the building, as in a wall, dated. There were tiles in Devonshire having dates, one of them being 1708. Then, when there was no date on the tiles they could sometimes find out the date by the armorial bearings; but sometimes tiles were found without any armorial bearings, yet clear evidence of the date of the building. The date was of great use in fixing the dates. He next came to the question of the patterns for the fixing of the dates of tiles; it was not a very satisfactory one, but still it had much to do with the matter. Another mode by which dates were fixed was by examining inscriptions upon tiles. Another mode of finding dates was by examining carefully the portions of the building where the tiles were found. Such were the various modes of dating tiles—first, from the date actually on the tile; secondly, from armorial bearings; thirdly, from inscriptions; fourthly, from the patterns; and, fifthly, from the buildings in which the tiles were found. Adopting this mode of examination, the rev. lecturer explained, by means of the drawings on the wall, the probable dates of the encaustic tiles in various parts of the country, as at Salisbury, Winchester, Westminster Abbey, various parts of London, Exeter, Hereford, York, Leicester, Hampshire, Coventry, Bristol, and some other places. In some of the buildings the same pattern occurred again and again, but still of some particular date, and he would find the same pattern in the same design. The lecturer then referred to the drawings on the wall, and fixed the probable dates of tiles occurring in Sussex, Buckinghamshire, Bedfordshire, Herefordshire, Gloucester, Wiltshire, Devonshire, and various other places throughout the country. He explained the various ways of arranging the tiles, and in arranging the tiles it was found that there were a great many examples of fragments of pavements and of incomplete ones. As to a small room, it was usual to have a pavement of one pattern; but, when the room was larger, more patterns were introduced (which he explained by reference to drawings of tiles found in various parts of the country, and from which it was shown that the divisions of three panels in a room were very different in different places). Then, as to the pavement of a whole church, he explained several patterns in the squares ran from column to column, and the whole of the aisles were richly paved. The whole of the pavement was next sub-divided (the mode of doing which his Lordship explained by reference to the drawings by which the lecture was illustrated). The rev. lecturer, in concluding his lecture, said he had been asked by the committee whether the green tiles of Mr. Minton combined most beautifully with red ones, and explained drawings of a number of pavements found in different churches; first, of specimens having a square of one pattern, and afterwards of pavements of a later date in which several patterns were used. Another mode of arrangement, the lecturer pointed out, was that of having the tiles cut out and put together, as at Ely. There were two or three ways of laying the tiles, and he explained the various ways of laying the pavement, and in laying down pavements it would be found that a mistake often committed was, that tiles of different dates were laid down in the same pavement, which, of course, made them incongruous. To put down a pavement in 1602 of different tiles and dates was a mistake, and he explained the various ways of laying them from not copying. The next method was to combine old pavements, and that was what he thought strongly suggest to architects and others who designed pavements. Mr. Shaw had published some useful information on this subject, and he (Lord A. Compton) had combined a very good way of laying the tiles, and he used a modern pavement was to invent it, and they might invent a tile, and

might invent a pavement. But he thought the best way to advance in pavements, as in other architectural matters, was to begin by careful copying. That was what he had done, and he now could see the fine original works in Gothic pavements in London and in cathedrals, and he thought the best way to advance, original, but they were the works of men who began by carefully studying the works of the ancients. As to the question of the colour of tiles, the lecturer remarked that, in the last century, blue, and red, and red were four colours which in combination were exceedingly beautiful. But, he thought, that in the last century, blue, red, and red were used, white, blue, green, and yellow, different from the first mentioned. (He referred to drawings of specimens of such tiles at the establishment of Mr. Minton.) Great praise was required in the churches, but he thought that the white lines were introduced, as they caught the eye very much, and the colours were required in the matter, so as to produce a good effect. Unless the tiles were arranged in a pleasing way, the whole would not combine so well.

On the motion of Mr. BERNARD-HOPE, a vote of thanks was passed by acclamation to Lord Alwyn Compton for his excellent lecture.

## LONDON DIOCESAN CHURCH BUILDING SOCIETY.

THE annual meeting of this society was held at Willis's Rooms on the 10th inst., the Bishop of London presiding. The report, the adoption of which was moved by the Earl of Ellesmere, stated that in the last year the society had raised in England eight mission chapels and mission rooms. In the short space of 10 years the population of the metropolitan districts had increased from 440,788, according to the last census. The Ecclesiastical Commissioners were now fully prepared to recognise the claims of those parishes in which they held property. The society was required to attend to the churches, which were, however, but few London parishes in which the Commissioners had property. The receipts of the society during the year had been £7,577 odd, of which £5,170 was on account of the general fund, and £2,407 of the Mission fund. In addition to the £2,407 of the Mission fund, the society had received £1,000. The grants made by the society during the past year had been unusually large—viz., £9,000 as compared with £6,885 in the previous one. Nine new churches had been consecrated since the 1st of May last, and five temporary churches had been opened. The parishes in which new churches had been opened were St. Pancras; Islington; St. James's and St. John's, Westminster; Tottenham; St. John, Paddington; Spitalfields, and Hampstead. The temporary churches and mission rooms which had been opened were in the parishes of West Ham, East Ham, St. Martin-in-the-Fields, St. Martin-in-the-Village, and St. Martin-in-the-Fields. The society was in progress or in contemplation in 34 parishes. The diocese of London contained a population of about 2,000,000, and was increasing yearly at the rate of nearly an inch per year. The diocese then parish, with population exceeding 35,000; four with between 30,000 and 35,000; five with between 25,000 and 30,000; six with between 20,000 and 25,000; sixteen with between 15,000 and 20,000; and thirty-two with between 10,000 and 15,000. The population of the diocese was less than in Middlesex than in any other English county. One hundred new churches at least were now required. Were this number erected, it would still be necessary to build about fifteen churches every year to provide for the increase of the population. The population of the diocese was increasing, taking the average, was only eight. Thus the deficiency in growing greater every year. The Bishop of London stated that the character of this society was essentially practical, and that it was not by any means a speculative or a visionary society, but that it was a practical society, and that it was a practical society, and that it was a practical society. In eighteen years, the society had expended £186,000, and was subscribed for the precursor of the Society, of which £80,000 was specially contributed for Bethnal-green. Seventy-eight new churches were by these means built in the diocese. There was collected from local sources £270,000, making a total of considerably more than half a million. No diocese, he submitted, could dispense with such an institution, certainly not that which increased in population by 50,000 a year and which had added half a million since the census of 1851.

Among other speakers at the meeting were Archdeacon Hale, Canon Wordsworth, the Rev. A. W. Thorold, and Mr. BERNARD-HOPE. Resolutions were passed to the effect that the results of the last census rendered more evident the necessity of the society for extending and strengthening the parochial system among a population increasing with such unexampled rapidity as that of London, and that the present system of the Diocesan Society, embracing as it did a complete scheme for meeting the necessities of the poor, was eminently calculated to meet the necessities of the case, and deserved largely-increased support from all the Churches of the diocese.

CHELSEA SUSPENSION BRIDGE.—Sir J. Paxton having asked the First Commissioner of Works if there was any truth in the rumour that the traffic over the Chelsea suspension bridge was restricted by the police, on account of some defect in the bridge, and if the bridge would furnish a safe accommodation for the traffic arising from the Exhibition and the Royal Agricultural Show shortly to be held in Battersea-park, Mr. Cowper said that Mr. Page, when he designed the bridge intended the light traffic to go over one portion of it, and the heavy traffic over another. He arranged the roadway for light traffic by placing planks of oak upon bitumen, that bitumen resting upon a concrete of cork and bitumen, thus making an elastic roadway. Mr. Page considered that if the heavy traffic were to pass along that roadway it would damage it. He therefore required that all heavy carriages should go upon the roadway of iron which were laid along the two sides of the bridge. With reference to the other question he (Mr. Cowper) had no reason to doubt that the bridge would furnish safe accommodation for the traffic, and he might have any number of heavy carriages passing over it. The question had arisen as to whether the bridge was fitted to bear any vast load which might by possibility come upon it. Mr. Page had not, in fact, provided for such a load as other persons of high authority thought ought to be provided against. He (Mr. Cowper) was of opinion that the bridge was not so much strengthened; but, at the same time, he had no reason to doubt that it would be strong enough to carry any amount of weight that would be brought upon it under ordinary circumstances. He should not like to have a decision made upon the bridge, and he would it would be desirable to allow troops to march across it, and it was capable of bearing the ordinary traffic.





## REMOVAL OF ST. THOMAS'S HOSPITAL AND THE CHAIRING-CROSS RAILWAY.

ON Tuesday a numerously-attended meeting of the governors of St. Thomas's Hospital was held in the hall of that institution, Sir JOHN MURDOCH, Bart., in the chair, supported by the Right Hon. the Lord Mayor, the Earl of Leven, Mr. Tite, M.P., Sir J. Henne, and others, to receive the report of the grand committee, which called the attention of the governors to the course of the proposed removal of the hospital to a suitable site for the new hospital. The committee deemed it of primary importance to ascertain what quantity of land would be required to enable the governors to build a hospital on the most improved plan; and, after taking into consideration the extent of the site of the new French Hospital—Hôpital de Lariboisière—supposed to be the best in existence, occupied from twelve to thirteen acres, exclusive of officers' residences, &c., and having in view the rapid increase of building within ten miles of London, the committee, from the conclusion that not less than from fifteen to eighteen acres ought to be secured for the proposed new hospital; and if practicable, even a larger quantity, in order, as far as possible, to prevent interference with the ventilation of the hospital by future building operations. Assuming it to be indispensable that the proposed site should be healthy as respects soil and elevation, and easily accessible to the afflicted poor, all the requisite information and statistics on those matters had been prepared and laid before the governors. The committee had not lost sight of the interests of the medical and surgical officers, or of the medical school; and where these interests were opposed to the more important interests of the poor, the former were considered subordinated to the latter, and it was the opinion of the committee that the interests of the medical officers of the school would be best served by placing the new hospital in a situation that should be found more conducive to the well-being of the patients. The committee had had under their consideration not fewer than forty-four sites, and the following nine were under consideration, viz., three at Chesham (at Bush-hill, Brunswick-square, and New-road, respectively), two at Hatches (the property of the Fishmongers' Company and Mr. Hardcastle, Kent-road, (Ord.), Lewisham (Mr. Boyd), Walworth (Royal Surrey Gardens), and Walworth (Fishmongers' Company). The sites were not all equally eligible. The Brunswick-square, Camberwell, and Old Kent-road sites were, perhaps, the least eligible. All varied much in price, not merely as regarded first cost, but also as regarded the probable additional outlay in purchasing the surrounding buildings, to secure sufficient ventilation and suitable access. The committee, while admitting the statement of the right to remind the court of the effect which the selection of any particular site by the court would probably have in enhancing the price.

After considerable discussion on the rights in the case, it was proposed by the CHAIRMAN, seconded by the Right Hon. the Lord Mayor, and carried, that the report of the grand committee be referred back to them to continue their negotiations and inquiries as to the site and other arrangements for the new hospital and report thereon.

## CIVIL AND MECHANICAL ENGINEERS' SOCIETY.

AT the meeting held on the 11th inst., Mr. JAMES WALKER, in the chair, Mr. FRANCIS CAMPBELL, President, read a paper "On Strain and Continuous Straight Girders."

After a few preliminary remarks upon the impulse given to the progress of bridge building, by the introduction of wrought iron as a material for that purpose, the author proposed to explain a simple and practical method of proportioning the flanges of straight girders. The amount of strain to be sustained by a girder is related to the greater weight by formulae deduced from mathematical investigations, which, however, are generally too complicated to be practically available.

The curve of struts upon a girder simply supported at each extremity is a parabolic segment which, however, may be closely approximated by a circular segment, hence the least area of any section of the flange may be measured on the ordinate of a curve drawn as follows:—

Find the area at the centre of the girder, from which point lay off to scale at right angles to the girder an ordinate representing such area; then describe a circle, passing through the extremities of the ordinate and line of girder. It is desirable that the vertical scale of same be as small as possible in proportion to the horizontal scale. The area of either flange at the centre, including loss by rivets, may be found from the expression,  $0.011 \frac{W}{d}$

where  $W$  = load in tons per foot run,  $d$  = span in feet,  $d$  = depth of feet, the result being the area in square inches.

The area of a continuous girder may be regarded as virtually divided into two or more parts, a central part acting as a girder supported at each end, and limited in length by the points of contra flexure, and each part may be treated as if an ordinary single girder, as described above, and one or both ends of each such part, act as a girder, fixed at one end and free at the other, bearing a uniform load  $w$  per foot run, distributed over its length, and a concentrated load  $W$  at its extremity, equal in half the total load on the central part of the girder. The area at the point of contra flexure found for either flange from the expression,  $W \cdot x$

where  $W$  = total load on half beam, and on central part,  $d$  = depth of girder,  $x$  = distance of point of contra-flexure from point of support = length of half beam. All that remains to be determined is the value of  $x$ , which corresponds to a minimum area of one end of the girder.

After the value of  $x$  has been determined, the value of  $x$  gives for a beam fixed at both ends  $0.714$ , and for a beam fixed at one end and supported at the other  $0.724$ . In the case of a continuous girder, the values of the  $x$ 's are summed first as equivalent to one of the above quantities, and then an equivalent value is given for the point of support, whichever upon such area is calculated from.

The author then proceeded to give a series of examples, from the case of continuous girders, and, from a calculation of numerous engines and cranes, found that it sometimes amounted to 25 per cent. of the weight, amounting about in 10 per cent.

These results were obtained from an empirical formulae, for the weight of metal in a bridge, supposing single spans to be used, it is  $\frac{10,000}{\log. W + \log. l - \log. f}$

breadth, and  $l$  = span, both in feet, the quantity  $25 \frac{10,000}{\log. W + \log. l - \log. f}$  was found from the expression,  $\log. W + \log. l - \log. f$

In which  $W, l, f, W', F, F'$  are the weights, breadths, and spans for two cases,  $n = 725$  was the mean result of a number of solutions of the above quantities.

MANCHESTER CATHEDRAL.—Among other bequests of the late Mr. George

Walker is one of £2,000, for restoring Manchester Cathedral. The cost of its restoration was some time ago estimated at £10,000, and about £2,500 had been raised by subscriptions.

## Reviews.

Chambers's Social Science Tracts. W. and R. Chambers, London and Edinburgh.

WE have received the fifth number of this valuable for the working classes. Its subject is Building Society, and it contains at length a lecture delivered before the Architectural Institute of Scotland, by Mr. W. Chambers, of which we gave a condensed report at page 241 of our present volume.

The Messrs. Chambers are always working in the right direction.

Canada: a brief Outline of her Geographical Position, Productions, Climate, Capabilities, Educational and Municipal Institutions, Fisheries, &c. &c. Fourth edition.

THIS pamphlet, issued from the Bureau of Agriculture at Quebec, is intended for circulation "in the hope that Canada, as a distinct and important portion of North America, may thus become better known." It gives detailed and valuable information as to the position and extent of Canada, its natural advantages, resources, minerals, fisheries, government, population, laws, municipal and educational institutions, religion, soil, value of land, free grants, and regulations; the condition and prospects of the new settlements, climate, routes through the province, trade and revenue, wages, outfit, railways, protection to emigrants, &c., &c.

Persons intending to emigrate should possess this pamphlet, together with one for the Information of Emigrants, passed from the Government Emigration Office at Quebec.

A List of the Principal Newspapers Published in the United States and Canada. Gun and Co., American Agency, and the Reading Room, 10, Strand.

IS aptly printed, in a convenient form, and is so far observed very complete.

Mitchell's Screw Piles and Moorings, with Johnson's Patented Improvements, and Instructions, by F. MITCHELL, Esq., Civil Engineer.

THIS pamphlet gives a brief outline of the principles of the screw pile, and an account of some recent improvements in its form, together with instances of its application in the construction of lighthouses, beacons, piers, and jetties, and of its use in the practice of the Portland Breakwater. The form of the screw is shown by a woodcut.

## The Ecclesiologist.

OUR contemporary in the April Number gives a view of "Karleiph's Church"—i.e. Durham Cathedral as erected by Bishop Karleiph. The paper accompanying the view was read by Mr. Robson, before the Yorkshire Architectural Society. There are also two plates containing a plan, sections, and details of Beverstock Church, Gloucestershire, with a history of the church. "Foreign Gleasings" notes, among other works, the restoration of the west end of St. Peter's, Louvain, done by M. de Maestrecht. Air-à-Chapelle, and other places. We have already given an article on the Medieval Court at the Great Exhibition.

## The Art World.

WE have received the first part of this new periodical, which we notice in its unwarrantable attack on the *Building News* and *Builder*, with reference to the International Exhibition building. The new journal pompously says, "In the silence (!) of the architectural journals the art journals must speak out; nor are we better pleased by observing in the sixth Number a criticism of the Architectural Exhibition, which is, with the exception of three lines, simply a reprint, in large type, and without acknowledgment, of what has already appeared in our pages."

Architectural Sketches: Ecclesiastical, Secular, and Domestic, in Worcester-shire, and its Border, with Historical and Descriptive Notes. By J. REVEREND WALKER, hon. secretary to the Worcester Diocesan Architectural Society. Vol. I. Worcester: Deighton and Son. London: Masters and Co.

THE objects and scope of Mr. Walker's "Sketches" is briefly to make better known the architecture of Worcester-shire, which, as he remarks, is but little known in comparison with that of others. New and restored churches, parsonages, schools, and labourers' cottages, will be given, together with facsimiles of scarce old prints and drawings, representing buildings now destroyed or modernised. The historical notes will be compiled, but the author will hold himself alone responsible for the architectural descriptions and remarks, which we have little doubt will be prepared with great care. The present volume contains, executed by the artist's own hand, and it must be remarked, not with equal success, illustrations of St. John's Church, at Itley; St. Michael's, and The Lodge, at Elmley Lovell, the latter one of the last half-timbered structures in existence in the country; an elevation of a portion of the chancel screen, St. Mary and All Saints, Hampton Lovell; Old Beedley Bridge; St. Kenelm's Church, Clifton-upon-Teme; Henne Castle and Woodmanston, both at the same place; sketches from Knightbridge and Ludlow; and The Ladies Aston Church, St. Michael's, Crofton-Brewery, Beauchamp Lodge, a half-timbered structure erected in 1850, and Roadway Hill Cottage, both at Highnam Court, which, by the way, is in Gloucestershire.

We may say as much for Mr. Walker who has encouraged to continue his work to some length; no doubt a few shortcomings as regards the illustrations will not be observable in future volumes.

## Correspondence.

## JOINERS' WORK IN LONDON AND LANCASTHIRE.

SIR,—In the *Builder* of last Saturday the following occurs:—"A CONSPIRACY." The important letter is headed upon "Joiners' Work in London and Lancashire." We will venture to say in our next number. As that might lead you to believe that I had addressed my letter to the editor of that paper, I beg to inform you that I have not done so. A CONSPIRACY.

April 14, 1862.





six miles from the Llanymyneir station, and nine miles from Wethop. Further particulars by applying to the architect, G. O. Goss, Esq., 79, Spring-garden, London. Tenders to be sent in on or before the 27th April, addressed to the Rev. R. Wynne Edwards, Medical Usanage, Wethop.

**BELKIN.**—For rearing and part rebuilding the parish church of Wokingham, Berks (where there is a junction station for the Great Western Railway), Messrs. W. B. Belkin, Esq., Pines, &c., at the office of Mr. W. Wheeler, solicitor, Wokingham, till the 15th. Sealed tenders directed to Mr. Wheeler, on or before the 29th inst.

**THE LASHLEY.**—For the several alterations and repairs to the Lashley, St. Davids's Church, Baeap, Llanonshire, the foundations are now completed. Plans on application to Mr. Robert Howarth, at St. Davids's, Baeap. Tenders, either for the whole work or for the several contracts, must be delivered to Mr. T. Graham-Turn, architect, Hildon, Somerset, at St. Davids's, before one p.m. on the 27th inst.

**REITER.**—For the erection of Wesleyan school buildings, in King-street, Exeter. Drawings, &c., with W. Blackmore, architect and surveyor, 8, Maiden-terrace, St. David's, Exeter, until the 1st of May, at which date sealed tenders are to be delivered, endorsed "Tender for School."

#### DWILLING HOUSES, &c.

**CRIPPING NORTH.**—For alterations and very considerable additions to a residence at Crippington, Pines, &c., at the office of Messrs. Gibbs, Thompson, and Colchester, architects, (residence), 10, Pall-mall, London. Where the quantities, &c., may be had on payment of 10s. Tenders to Messrs. Thibault and Wilkins, Crippington North, on the 27th April.

**KING'S LYNN.**—For the erection of three first-class, four second-class, and four third-class houses, at Houghton, according to plans, &c., by Mr. Butterfield. The plans, &c., may be seen at the office of Mr. J. H. Bennett, C.E., 17, Parliament-street, Westminster, or with Partridge and Edwards, architects to the Houghton Building Association. King's Lynn, or copies may be forwarded on payment of 25s. Tenders, asking a separate amount for each class of house (marked "Tender for King's Lynn"), must be delivered to the solicitors on or before the 29th inst.

**GLOUCESTER.**—For the erection and completion of a villa residence, with stable and coach-house, proposed to be built at Gloucester. Drawings, &c., at the office of Messrs. Franklin and Glisard, architects, -street. Tenders to be delivered to Messrs. Franklin and Glisard, at Gloucester, before 10 o'clock on the 27th inst.

#### FARM BUILDINGS.

**DETROIT-ON-TRENT.**—For alterations and additions to farm-buildings on the estate of Mr. Henry Des Voeux, Esq., at Detroit-on-Trent. Plans, &c., on application to the tenant, Mr. W. Inall, Clove Craft Farm, Buxton, near Buxton-on-Trent. Sealed tenders to be delivered to Messrs. J. and J. Glindford, near Buxton-on-Trent, 55, Pall-mall, London, on or before April 26th.

#### POLICE STATION.

**DEVON.**—For the erection of a police station, at Holsworthy, Devonshire. Plans, &c., with Henry Ford, clerk of the Peace, Castle of Exeter, and at the office of A. M. Osborn, Clerk to Justices, Holsworthy. Sealed tenders, endorsed "Tender for Holsworthy Police Station," to be sent to Mr. Ford, Exeter, on or before the 27th inst.

#### RIVER WORKS.

**CAMBRIDGE.**—For the repair of the Cambridge sluice (about three miles below Cambridge), and for supplying the same with new oak doors and footgates for the sluice. Plans, &c., with new tenders for the footgates and overall, and other works. Specification with General Francis, Clerk of the Commission, Cambridge. Sealed tenders to Mr. Francis on or before the 30th inst.

#### ROADWORK.

**CHIFFENHAM.**—For the repair of the Chiffenham turnpike road, about 17 miles, for two years from the 1st day of June next. Specification at the office of the clerk, and estimates furnished at stationer's of the same, to be delivered to the clerk, must be delivered to the clerk, before twelve noon, on the 24th inst.

#### RESERVOIR.

**FILDE.**—For the construction of a reservoir on the Grimsdale Brook, about three miles from Garsington, and near Scotton Station, on the Lancaster and Preston Railway; and a reservoir near Weston-le-Back, about three miles from the Kirkham Station of the Lancashire and Wyre Railway. Plans, &c., at the office of Mr. W. B. Foster, Esq., 21, John Dalton-street, Manchester, from whom specifications and forms of tender can be obtained on payment of 1s. for each reservoir. Tenders, marked "Tender for Reservoirs," to be sent to the Engineer of the Company, at the Pylde Waterworks Office, Kirkham, not later than the 26th inst. Sealed tenders will be received till the 27th inst.

**KENT.**—For the construction of a high service reservoir near the "Star Windmill," Chatham, for the Bromley, Chatham, Gillingham, and Rochester Waterworks Company. Further particulars may be obtained, and the plans, &c., inspected, by application to the Company's officers, Military-road, Chatham, or at the office of J. Pilbrow, Esq., engineer to the Company, 21, Fleet-street, London, E.C., where also specifications and conditions of contract, and forms of tender may be obtained upon payment of 5s. Tenders (properly endorsed) must be sent in, addressed to the directors, at the officers, Chatham, on or before the 27th April.

#### RAILWAY WORKS.

**ALTA RAILWAY.**—For the construction of the whole works on the line from Cambusnethy of the North and Dundee Railway. The line, being about 10 miles long, and the whole to be let in one contract, which is to include the construction of the stations and station buildings complete, and the construction of the bridge over the river, and the bridge over the Devon, will be supplied by the railway company. The plans, &c., are at the secretary's office, Alva, or at the office of James W. Stewart, Esq., C.E., 78, George-street, Edinburgh. Tenders, marked "Tender for Alta Railway," to be sent to the Secretary, Alva, or to the office of James W. Stewart, Esq., C.E., 78, George-street, Edinburgh, on or before the 27th inst.

**GLASGOW RAILWAY.**—For the construction of the Stonehouse Branch, about 4 miles 20 chains in length. Plans, &c., at the office, in Glasgow, of Mr. George Graham, the Company's engineer, where drawings may be seen, and the quantities, &c., may be had upon payment of 10s. An assistant engineer will attend at Stonehouse, on Friday, the 11th, at 12 o'clock, to accompany intending offers over the line. Sealed tenders, addressed to the Secretary, Glasgow, must be delivered with them on or before 26th April.

**DARLINGTON.**—For the erection of a caution portion at Darlington Station, on the North Yorkshire Railway. Plans, &c., at the office of Mr. J. H. Bennett, C.E., 17, Parliament-street, Newcastle. Sealed tenders, marked "Tender for Darlington Station," to be sent to the Secretary not later than the 27th inst.

**FERRIBILL.**—For the alterations and repairs to the Ferrisburgh Station, at Ferrisburgh Station, on the North Eastern Railway. Plans, &c., and further information, on application to Messrs. Prosser, architects, Newcastle. Sealed tenders, marked "Tender for Ferrisburgh Station," to be sent to the Secretary not later than the 27th inst.

**REITER.**—For the erection of a roof for the new station at Exeter, of the Bristol and Exeter Railway, having an area of 100,000 sq. ft. Plans, &c., at the office of Mr. J. H. Bennett, C.E., Office, Bristol Terminus, to the 5th of May. Sealed tenders to be addressed to the Secretary, A. Moore, Esq., on or before the 27th May.

#### SEWERAGE.

**BRIGHTON.**—For constructing a main sewer and outfall in the Brunswick-square and Green districts. Plans, &c., at the office of Mr. R. Slater, Esq., the surveyor of the Commissioners, at their rooms in Brunswick-square, Brighton. Tenders in writing, sealed and endorsed, "Brunswick-square and terrace drainage," are to be delivered on or before 10 o'clock on the 30th April, at the office of Messrs. Hill and Fishagh, solicitors, Brighton.

#### GAWSKIRKS.

**KENT.**—For the performance of the work required in the extension of their pier-head and coal store, and alterations in other parts of the works, at the Gawskirk Gaeskirk, Kent, &c., at the Company's Works, Gawskirk. Further information of Mr. J. Church, C.E., Chislehurst. Where the quantities, &c., may be had from Messrs. Boscawen and Ross, secretaries, Gawskirk, and tenders are to be sent or delivered there on or before the 30th instants, marked "Tender for Building."

**THE METROPOLITAN BUILDING ACT.**—A bill to alter and amend the Metropolitan Building Act of 1855 has been brought into Parliament by Colonel Sykes and Admiral Waleott. Its chief provision is that the rules of the Act of 1855, limiting the cubical dimensions of buildings shall not apply to any structure erected for the construction of a railway or by the Metropolitan Board of Works, at a distance of more than three miles from St. Paul's Church. Such buildings, however, are to consist of one story only, and not to be of larger dimensions than 216,000 cubic feet.

**THE BLACKFRIARS RAILWAY BRIDGE.**—Mr. Hartbridge has inserted in the House of Commons for the next Court of Common Council the following order of motion: "That this court assent to the proposal of the London, Chatham, and Dover Railway Company to erect a bridge of five arches, or spans, across the River Thames, between Blackfriars and Vintria-bridge."

**THE RIGHT TO RING CHURCH BELLS.**—A curious case having reference to the right of ringing church bells has been heard in the County Public Office, Leicester, when Mr. D. Wain, farmer, of Thurmby, appeared to answer a charge preferred against him by the Rev. J. K. Hedderley, vicar, of having, on the 25th ult., rung the bells of the church of St. Andrew, in Leicester, without the leave of the parish church. By the evidence it appeared that from 1857 it had been the custom of the churchwardens of the village, on the occasion of Lord Stamford's house being there, to ring the church bells in honour of his lordship.

When, however, the bells were rung on the 17th instants, the vicar felt it his duty to interfere, and ordered the bells not to be rung, with the understanding that if his commands were disobeyed he should take legal proceedings against the parish churchwardens. Accordingly, on Sunday evening (the 18th instants), the bells were rung, and the vicar, on the 19th instants, met, he mailed down the latch of the bell door, besides taking the precaution to prevent ingress by locking the door and tying the key in it. At seven o'clock the following morning the defendant gave orders to the parish constable (who was not a member of the church) to open the door, and to give the bell-ringers the key of the door. The bell-ringers then ascended the bell door, and for two hours or more rang the bells in honour of Lord Stamford's visit. The magistrates dismissed the case.—*Western Morning News.*

**PUBLIC BUILDINGS.**—Mr. B. Cochrane has given notice that on Tuesday, the 30th of April, he will move for a royal commission to inquire into the state of public buildings erected by Parliamentary grant during the last twenty years; also into the state of houses which were rented for the public service, and to inquire whether, by adopting any more comprehensive plans, great public economy, and utility of design might not be attained.

**CONSERVATIVE LAND SOCIETY.**—The thirty-eight quarterly meeting was held at the offices, 33, Norfolk-street, Strand, on Tuesday, the 16th inst. The quarterly report was a very satisfactory account of receipts, amounting to £17,921 7s. 11d. in the quarter, showing an increase over the corresponding quarter of last year of £2,006 11s. 6d., and an increase over the Christmas quarter of £4,849. The total receipts for the year, 1861, amount to £204,900 10s., being an increase to the extent of £2,955 15s. 7d. over the returns to Lady-day, 1861. Two allotments have already taken place this year of the Queen's-road estate, Tonbridge Vale, and the two estates at Newark-on-Trent. Another allotment is in hand for the 30th inst., when the last portion of New Richmond-park estate, a fourth portion of the Round Hill Farm estate, Brighton, with houses in occupation on the Round-hill-crescent, and ground rents at Battersea and North Row, will be offered to the members. The directors have been, and are in negotiation for various estates in different parts of the country, and are looking out for an eligible purchase in or near London.

**THE "BUFFS" MEMORIAL WINDOW IN CANTERBURY CATHEDRAL.**—The east window of the Warrior Chapel in Canterbury Cathedral has recently been dedicated to the Buffs, a regiment of foot, dedicated to the officers and privates of the above regiment, to the memory of their brethren in arms who fell in the Crimean campaign, 1855-6. The idea suggested in all the subjects is typical of conquest—No. 1, Abraham offers Isaac—victory of faith. No. 2, Israel conquers Amalek; Aaron and Hur holding up the hands of Moses—victory by a sign from God. No. 3 (the centre), our Lord crucified and bearing the banner of the Resurrection is met by the spirits in prison—victory over Death and Sin. No. 4, Gideon conquers Midian, himself the least in his army—victory by obedience. No. 5, Jehu conquers the Baal worshipers—victory by force of arms. In the upper part of the centre light is shown fully the regimental flag, and at its base the regimental badge, with the motto, "*Veteri fidei, fidei, honore*," upon a rich background of gold. The composition of the whole is in the highest style, and also in the upper tracing opening, the heraldic badge in connection with the Buffs are frequently introduced, viz., the Rose and Crown, the Dragon, the grenade, and the White Horse of Hanover. The inscription, inscribed in marble, under the window, is as follows: "To the memory of the officers and privates of the Buffs, who fell in the Crimea, 1855-6. The east window of this chapel is dedicated by the officers, non-commissioned officers, and private soldiers of the Buffs, (3rd, or East Kent Regiment), A.D. 1862." The memorial is by Messrs. O'Connor.

#### TO CORRESPONDENTS.

We cannot undertake to return rejected communications. We would, however, state that we shall not accept any communications from readers who will favour us with notes of things contemplated or in progress in the provinces; in most cases a simple statement to be, or not to be, in the country, will be sufficient.

W. H. J. F.—Has sent a portion only of promised paper.  
N. F. N.—Below our mark.

M. G.—We should be glad to see your article, but we cannot accept it.  
M. G.—We should accept and pay for such an article if suitable; but to a stranger we can make no such promise.

SUMNER.—We fear that you are too late, but we wish what can be done.  
K. T. B.—It is as it appears.

MR. AND MRS. B.—Your complaints constantly reach us; remonstrance seems unavailing.  
A. Z.—Send photograph, and subject shall be engraved.

G. B.—Should be glad to see your article, but we cannot accept it.  
B.—Declined with thanks.

G. B.—Should be glad to see your article, but we cannot accept it.  
B.—We do not deny you have a claim for compensation; take good legal advice. We cannot send you at present.

All communications to be addressed. The Editor of THE BUILDING NEWS, 25, Old Broad-street, Strand, W.C., except letters referring to advertisements or other business matters, which should be addressed to the Publisher, 18, 21, Old Broad-street, Strand, W.C.

Advertisements are received up to 4 o'clock on Thursday.

## MR. PEABODY'S GIFT TO THE LONDON POOR.



NE of the most munificent instances of private benevolence on record has occurred within the last few weeks in the metropolis of this country. It will be fresh in the recollection of our readers that Mr. Peabody, an American merchant of high standing, and one who has for many years been actively engaged in business in London, has conveyed to trustees the sum of one hundred and fifty thousand pounds, to be devoted to the improvement of the condition of the London poor.

This benefaction is distinguished from ordinary charities in many ways. It consists of such a sum of money as ordinarily is never devoted to charitable purposes, except in the form of a legacy, and this sum is voluntarily set aside by the donor during his lifetime. It is further not the gift of a successful man, to be made to, or of a fortunate emigrant to the country of his adoption, for Mr. Peabody is not an Englishman, or a naturalised Englishman. His native town has already benefited largely by his liberality, and he is, we are informed, preparing to return to his own country, thereby saving the active years of his life in ours. Lastly, there is in the objects to which this benefaction is to be applied much of large-minded liberality, and an entire absence of either sectarian prejudice or personal bias. We hear of nothing except that a large sum of money is placed in the hands of a few trustees, with the general directions that they are to employ it for the good of the poor of London in any way that may seem to them most advisable, without prejudice for or against any sect, class, or nation; and without any special mode of employing the fund being prescribed. All this is so different from the ordinary methods of rich men, who mostly hold their money as long as life lasts, and then abstract from what they leave to their heirs a sum or sums to be devoted to specific objects, charities, churches, or institutions, that we cannot fail to look upon it with surprise, and ought unquestionably to recognise it with marked approval.

It is right to add, before going further, that Mr. Peabody makes one suggestion in his memorandum descriptive of his intentions with regard to this fund; and that this suggestion, not only on account of its being the only special destination pointed out for any portion of the money, but also on account of its great value and good sense, will be sure to have the greatest possible weight with the trustees. The special object alluded to is the *improvement of the dwellings of the poor*.

Mr. Peabody must well know, as it is known at all, the state of the London poor, that the deplorable condition of their dwellings is one of the unhappy circumstances which tells most against their health, their comfort, and their morality. Perhaps there are other evils as great or greater, and as much crying for removal, but it is not everything that money can do. Money cannot buy justice for the oppressed; cannot gain the attention of the powerful to the cry of the weak cannot right social wrongs; cannot do anything towards making good a deficiency of kindness, or honour, or truth, or sense of duty. Money, however, can buy land and build houses, can procure the best advice and secure substantial and efficient comforts in what it builds, and it was therefore wise in making a grant of money to point out this as one of the fields in which it is to be employed.

With regard, however, to the whole detail of how this object is to be furthered, and to the entire plan with this one exception, all is left to the judgment of the trustees; and we cannot but feel anxious to know what their decisions will be, and what course they will pursue. The capital and the interest, if misapplied, will become a premium on idleness, buggery, vice, or, if wasted, will present the sad spectacle of a noble opportunity lost, while, well appropriated, this fund will be likely not only to do great good, but to form a model upon which other such funds will be based, and possibly a nucleus to which other sums of money will be added.

The sum of £150,000, if invested to yield 5 per cent., would represent an annual income of £7,500, and supposing this was decided upon as the better course to pursue in the management of the fund, it is clear that a very considerable annual amount of good might be done, especially if the trustees were to take the course of assisting private or other efforts in place of originating schemes of their own. This plan has been pursued with marked success by certain benevolent societies. Few, if any, societies have made a moderate income represent so extensive an influence and so much good in their own way as the various church and chapel building societies. The Incorporated Church Building Society, the various diocesan societies, and sundry such societies among various bodies of dissenters, have all followed very nearly the same method. They have some of them occasionally originated and built new churches, but ordinarily their practice of all of them has been to content themselves by giving a liberal donation towards the funds of church-building undertakings started by private individuals, and in doing this they have afforded the benefit of their experience and acquaintance with the undertaking in addition to their pecuniary help; and, further, have exerted influence in such control over the plans and the carrying out of the building as shall tend to secure

that the work should be substantial and the accommodation comfortable and complete. Added to this, some of these societies have a loan fund, and are prepared to advance money to assist these undertakings in addition to their contributions.

It is notorious that the encouragement afforded by the operations we have just been describing has, in numberless cases, occasioned the erection of churches which would not otherwise have been built, and that the professional scrutiny of plans and specifications secured, has, in many cases, prevented mistakes which would have led to unfortunate or disastrous results, had they not been thus detected in time; and the same thing would be true of the operations of Mr. Peabody's trustees, were they to take a similar course.

Let us take for example the case of improving the dwellings of the poor. It would be a wise appropriation of money if, in the first place, all the information accessible were collected and published, including plans of all the most successful labourers' dwellings for cities, and statistics of their success or failure; then perhaps here and there a specimen block of buildings might be erected, or a row of cottages drained, improved and rendered healthy, as examples and experiments; but we apprehend the most extensive good would be done were it known that the trustees would contribute a certain amount, or a certain proportion of the expense in cases where landowners or companies would erect dwellings complying with certain conditions, or would effect certain improvements in defective dwellings. And to this might be added, as in the case of the church building societies already alluded to, further assistance in the shape of a loan.

The objection will, no doubt, occur that this devotion of money, instead of helping the poor, would in reality help house-builders; and to this the only answer to be made is, that probably in no other way could so much be done for the dwellings of the poor with the same amount of money. Building good houses for the very poor, and improving bad houses, is a business not altogether uncertain, and not attractive to the extent that assistance would probably cause it to be undertaken in many instances; and, as the trustees might connect with their grant the conditions that each tenement should not be let above a certain maximum rent, and should not be let for infamous occupation, and might retain a legal power of enforcing these conditions, it appears clear that a great benefit might result.

We would, however, suggest that aid should be afforded from this fund for other measures of social improvement which are not touched by legal provisions. There exists already a machinery for the regulation of drainage, but we are not sure how far the improvement of water supply might not be advantageously assisted; and, we are, however, quite sure that the establishment of additional baths and wash-rooms might be promoted with great advantage, and the opening of reading-rooms or other such places of resort for labouring men would be another measure where help from a fund like this would be invaluable.

Such measures as we have been describing have been already taken, with the best results, in many localities where the resources existed for their prosecution, and usually at the instigation, and often also at the sole expense, of the parish clergy, aided by a few of the liberal and benevolent inhabitants; but, in many localities, and those places where the need of such auxiliaries to improvement is the greatest, there is no possibility of establishing anything which makes a demand upon funds that are not enough resources available; and in such cases as these a liberal subscription and experienced advice would be of the greatest value.

If the discomfort of the dwellings of the poor be one great and radical source of misery, there are two others which combine with it, and for which no remedy of real efficacy has yet appeared. The first is the unwholesome, greasy, and unclean, waste, uncleanliness, in short, the filthiness of the dwellings of the poor; the second is the attractiveness to all poor men, and women too, of the public-house and of strong drink.

If the fund we are discussing is administered by persons desirous of striking out a new path for themselves, here is an ample field for them, very nearly unoccupied, and promising the happiest results to those who successfully grapple with its difficulties. We are, however, sure that among the things which money cannot buy will be found the secret of teaching poor women how to make the most of their little means. This, when it is done, will be done by the personal exertions of educated women desirous to set right somewhat of the much that is still wrong in spite of our boasted civilisation, and may, perhaps, be aided a little by judicious teaching in schools.

There is, however, a fairer opportunity open for benevolence in the opportunity for taking such measures as shall make a successful attack upon drunkenness and the public-house.

A hundred years ago drinking was more rife in the higher circles than it now is in any grade of society, but the progress of education, and a change in public opinion, have brought it down to the level of the poor. If such a change is possible in one social class it is not impossible in another, and the greatest of all benefits will be conferred upon London and the London poor by any step which tends considerably to diminish the amount spent in gin palaces and common taverns.

We are not intending, in a few words at the very end of an article, to propose a scheme for the diminution of this master vice, but we believe that the key to at least a palliation will be found, if Mr. Peabody or any other benefactor will give working men or other poor people somewhere else to go to than the public-house, and something else to enjoy besides drink. Were a thoroughly unexceptionable class of public music, reading and coffee rooms open, as we would in fact offer, to the poor, the working men, and would meet their wants and leave them as uncontrolled

and as free from interference as they are at the public-house, we believe that the better class of men would frequent them at once, and that they might in time effect much towards diminishing the number of the frequenters of public-houses.

What has been said shows the need of great prudence and sagacity in the employment of this charity. These qualities we are willing to hope will be brought in the task of dispensing it, and will, if used right, secure the fulfilment of the intentions of the generous donor.

As to the gift itself, and the liberal feelings which have prompted it, there can but be one feeling, and we are glad to learn that the City of London is taking steps to mark its sense of the recognition due to such an act by the best means in its power—namely, presenting Mr. Peabody with the freedom of the City. It is also somewhat interesting to find that the opinion expressed by the donor as to the first object towards the promotion of which the fund should be appropriated has been fully appreciated by those best able to judge. At a recent meeting of inhabitants of the ward of Finsbury held to consider the subject, the following resolution was come to:—"That this meeting, representing as it does one of the poorest districts of London, desires to express its opinion that the improvement of the dwellings of the labouring classes is the great necessity of the day, and likely to promote the happiness and well-being of the metropolis." This is very true, and we hope that the most sanguine wishes of Mr. Peabody will fully realized, and that he may live himself to behold some at least of the good results of his liberality.

#### ARCHITECTURAL EXHIBITION.\*

THE most conspicuous object this year in the Architectural Exhibition is a full-scale drawing of a window erected to the memory of the eighth Earl Waldegrave, by Mr. Gibbs, of Euston-road. It has one great advantage over the window itself in having the subject depicted in one tint only; but it has been most injudiciously hung, with a strong light full upon it. In a partially-darkened room its size and the vivid description of its author would have enabled an ordinary imagination to conceive the powerful solemnity of which Mr. Gibbs's cartoon is very originally treated. The architecture in Mr. Gibbs's cartoon is not quite correct, but the costume is in keeping with it. In this the artist has shown great skill. He evidently adapted his window to the country church in which it was to be placed. It would be as absurd, he seems to imply, to lay the poetry and refinement of such a subject, or the historical research necessary for educated men, before a country congregation, as it would be to send Shakespeare to ploughmen. The child can see in this window his *beau idéal* of a Roman soldier, and plenty of bright colour undiluted by the conventionality of tyrannical schools. With familiar details the artist has successfully appealed to the hearts of the ignorant. He has not worked for the fastidious few, but for the many, and, whether it be his own lack of ability to understand, the higher qualities of glass painting. Looked at from this point of view, the design surpasses anything which we have lately seen. It is, in fact, only excelled by the window itself. We expected, however, to find it at the International Exhibition. It says much for Mr. Gibbs's merits as an artist, and for his taste in conducting a work which would have been at the head of its peculiar class even at South Kensington. Personally, we should, as we have said before, preferred to have had the cartoon hung in a darkened room, whilst the painted glass might, to its greatest advantage, have been hung here upon the wall in its place. Opposite to it, over the entrance-door, where it is likely to escape the notice it deserves, is a drawing of an entirely different stamp, by Messrs. Heaton, Butler, and Bayne. The composition of the group and every line of the drapery is conceived in a masterly manner, and drawn firmly in. There is no strained effect—no theatrical clap-trap; but mainly, refined power and Christian sentiment. The knowledge which has guided the hand in drawing the figures has presided also over the minutest fraction of formal ornament. There is only sufficient colour to relieve the figures; but the drawing in this cartoon, as in Mr. Gibbs's, may very confidently be accepted as the prologues to the works themselves.

Messrs. Lavers and Barraud also contribute two or three drawings of stained glass windows, but they are on so small a scale, and hung so high up on the walls, that without a step-ladder, which the Committee do not furnish, we are unable to do justice to them. For beautiful colour in stained glass we must turn to the contributions of Mr. J. P. Seddon, from Rheims Cathedral (1859), and to the drawings of Mr. Seddon, which are more so in Mr. Seddon's drawings than in the original—the colours and the combinations of them leave the efforts of all modern glass painters immeasurably behind.

Of designs for public buildings in our metropolis, the Exhibition, which heretofore gave us generally a wretched record but one. It is a design, by C. R. H. Smith, for an octagonal vestibule, with four porticoes, to the principal Government offices at the crossing of two main thoroughfares. Four sides of the octagon have arched openings, and the semicircular porticoes, with red bays and Corinthian caps, stand upon a high flight of steps against the other four. The entrance is through a portico in front is meant, we suppose, to represent Parliament-street; but it resembles that busy thoroughfare about as much as that calm retreat of studious and melancholy men, Dares-in, resembles Chesham. On each side of the before-mentioned porticoes, where sentry-boxes and foot-guards would in reality be placed, Mr. Smith has fixed equestrian glist statues of royal personages. The angles of the openings are chamfered, and in the cham-

fered piers figures of Victory and Fame are surmounted by carvings of the Westminster Gridiron. On the internal angles of the octagon small brackets project from the impost mouldings, and bear alternately busts of the lion and the unicorn. They are no longer simply divided by the heraldic shield; an impassable gap here, to their credit be it said, separates the main cornice from the main cornice, which is arched upwards at intervals to enclose small niches which at that cornice surround the vestibule, and afford accommodation for stowing away some very unprepossessing statuettes. The whole is covered by a coffered dome.

Another gentleman of the same name, but with different prefixes, Mr. F. Smalman Smith, treats us to an amusing puzzle in his Architectural Recollections of 1851, the chief point in which—in we find from the twelve or fourteen illustrations of the main cornice is arched upwards at intervals to enclose small niches which at that cornice surround the vestibule, and afford accommodation for stowing away some very unprepossessing statuettes. The whole is covered by a coffered dome.

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The designs for the Hull Town Hall form an important part of the Exhibition. We have contributions from some five or six of the competitors. The prize design, by Mr. Cuthbert Broderick, is placed upon one of the screens, and was sent seemingly after the catalogue was compiled. It is a fine Italian design, and consists of two ranges of three-story arcades, and of a high square tower in the centre of the front. Thus, in general arrangement resembling the Flemish halls, but differing of course from them in the details, high-pitched roof, dormers, and pinnacles. Messrs. Green and De Villiers' design, which gained the third premium, is likewise here. A massive colonnade and a high square tower in the front support a square castle-like tower in the centre. The striking feature of the design, word, in execution, look heavy in the extreme. The foliated panels between the Corinthian caps in the wings destroy the effect of the carved capitals, besides giving the entablature the appearance of increased and too great depth; still, there are many good points about the design. The arcades, in fact, show in another drawing—a design for the Hull Hall, Northampton,—"a somewhat similar arrangement more judiciously treated. The columns here properly rest upon solid piers, connected by an arcade entrance, and appear as component parts of the design instead of as excrescences upon it. The foreign Gothic designs are numerous, but those of Mr. Godwin and Mr. Edgewood are particularly fine. One of the former gentlemen is in the same step as his Northampton design, but it is even more meritorious. There is a triple arcade in front, with statues on small buttress-like columns between the windows of upper floor, having their canopies cutting into the principal cornice. There are towers over each wing, varied in their outline and design. Its great superiority to the fellow of Northampton lies, however, in its excellent relative proportion of ground floor and superstructure, whilst its fine picturesque outline and clever detail make us regret that it will exist but upon paper. It is by far the finest work which Mr. Godwin has yet produced. His design for Swansea reminds us of his former interior works. The windows are framed by the tall buttresses of the tower, and the black arcade is a feature which would entail a good round sum for the disfigurement of the building. There is a fettered look in it which is extremely unpleasant. We long for a bit of blank wall, and if our readers would appreciate the value of this cheap means of decoration, let them look at the passing. Mr. Lamb's design for the Hull Town Hall, and Store Company, 40, and then contrast it with the crowded lines in any adjoining frame, as, for instance, those of the new buildings at Newcastle-upon-Tyne. In frame 72 we have another design for the Hull Town Hall. It is a wild production, executed in Mr. Street's familiar manner, but resembling it about as much as a German chronicle-photograph resembles one of Turner's pictures. The wonder, however, is that Mr. Phillips, who can appreciate Mr. Street sufficiently to copy him, cannot, with such practice as he has had—for we have already noticed his dead copy of that gentleman's best known church—do it better, or see that he fails to do it other than amusingly. The design is on a par with the execution. It is a systematic combination of features which would be fatal to the eye, but which are fatal in inexperienced hands. Mr. Phillips makes use of similar features to Mr. Godwin, but he lacks equal power to weld them homogeneously together.

Mr. Edin' design for Hull Town Hall is placed too high to be properly examined, but it has evidently been made in a genuine Gothic spirit, and





1861, or on some spot immediately contiguous to it; and that, "there would also be this advantage in a monument of this nature, that several of the first artists of the day might take part in its execution, for there would be room at the base of the obelisk for various fine groups of statuary, each of which might be entrusted to a different artist."

In accordance with the views thus expressed we considered the condition of magnitude in the obelisk to be indispensable.

We could not but be apprehensive that considerable difficulties would have to be encountered in the interior arrangement of sculpture round the base, whether near or at some distance, bearing in mind the importance of giving the necessary prominence, in position and effect, to the statue of his Royal Highness the Prince Consort. We resolved, however, without entering on the consideration of this point, to confine our enquiries exclusively, at first, to the question of the possibility of finding in the United Kingdom a monolith of sufficient dimensions, combining with an approved colour the important condition of durability.

Our attention has, for these reasons, been restricted to granites. In our enquiries we have received great assistance from the Director-General of the Geological Survey, Sir Hoderick Murchison, through whom, with the aid of his correspondents at the quarries at present worked, we have received accurate information on the points to which our attention was chiefly directed. But we regret to say that in most instances the granite described to us, even when non-jettable on account of the tint or reputed durability of the material, have not been found capable of furnishing a monolith of sufficient length. We have also to acknowledge liberal offers of materials in comparatively unexplored localities, but the cost of experimental excavations and the uncertainty of the result have deterred us from advising such undertakings.

The only case that has come under our notice in which the various requisites above enumerated may possibly be found to be combined, together with vicinity to the sea and comparative ease of access, is that of a granite of a light red tint, in the island of Mull, on land belonging to the Duke of Argyll, who, with great liberality, has placed all such materials on his estate at the disposal of the Committee.

Our investigations have been for some time confined to this locality, and we have to express our thanks to the Ross of Mull Granite Company for the important assistance they have rendered us in enabling us to form an opinion respecting the fitness of the block in question.

The length, which in the excavated portion already exceeds 115 feet, would, we consider, suffice for the intended obelisk. There appears, however, to be reason to apprehend that the width of the stone near the centre would be insufficient, according to the proportions of the most approved ancient examples, to be consistent with that which would be required for the intended obelisk.

It is also by no means certain that the block referred to has the necessary thickness in those portions which are not yet cleared. An experienced contractor who has examined it has stated that nothing can be affirmed respecting the fitness of the stone "until it is cut out." It is true that the block is of a light red tint, in the island of Mull, on land belonging to the Duke of Argyll, who, with great liberality, has placed all such materials on his estate at the disposal of the Committee.

Although we have considered it on many accounts desirable that a monolith of the required dimensions should be obtained from some part of the United Kingdom, we have not omitted to make inquiries elsewhere. Knowing that large masses of granite occur in the mountains of the Pyrenees, and that, as evinced by various remarkable specimens in St. Petersburg, we have consulted competent authorities respecting the fitness of that material. The replies we have received cannot be regarded as satisfactory, since it appears that the granites in question, however well adapted for interior decoration, have not the reputation of being durable in the open air.

With regard to the important point of expenditure (assuming a monolith to be found in our own country), we consider that, from the variety of estimates we have privately received, "the novelty of the undertaking probably rendering any approach to accuracy difficult," we are by no means in a position to name a sum that would represent the ultimate cost; more especially as it is the opinion of many that the cost of erecting a monolithic obelisk, and of the sculpture on its surface were enriched with incised sculpture, on the principle of execution (however different from the representations) adopted on Egyptian obelisks. Without, however, venturing to assign a limit to the entire cost, we conceive we are justified in expressing our opinion that the whole of the sum already subscribed would be absorbed by the obelisk alone.

While, therefore, we see no reason to conclude that success is absolutely unattainable, we believe that it would be accompanied by difficulties and by expenditure at present wholly incalculable; nor can we refrain from expressing our serious doubts whether there are more enterprising and successful means of attaining the object we would be such as to realise our Majesty's just and natural expectations.

Having laid fully before your Majesty the information which we have received, and the inferences we have drawn, we humbly await the signification of your Majesty's pleasure as to prosecuting our present enquiries, or directing them to some other mode of meeting the great object in view.

DERRY.  
CLARENDOX.  
WILLIAM CURTIS.  
C. L. EASTLAKE.

Westminster, April 14.

In reply to this General Grey has written:—

Osborne, April 10, 1862.

The Queen commands me to acknowledge the receipt of the report from the Committee named by Her Majesty to advise her on the subject of the proposed National Monument to the Prince Consort.

Her Majesty cannot refuse to give reasons, so clearly and strongly put forward in the report, which induce the Committee to doubt the expediency of any further attempts to find a monolith that would fulfil the conditions on which Her Majesty's choice of an obelisk, as the distinguishing characteristic of the proposed monument, has been expressed.

Her Majesty sees, therefore, no alternative but to acquiesce in the abandonment of the idea of an obelisk, and to request the Committee to turn their attention to the possibility of adopting some other mode in which the great object in view may be most satisfactorily effected.

Her Majesty's wish is to leave the Committee quite free to recommend whatever may appear to them to afford the best hope of a satisfactory result; and

she would merely throw out as a suggestion whether the opinions of some of the foremost architects of the day might not be advantageously taken as to the means of combining the groups of statuary mentioned in my letter to the Lord Mayor (among which, of course, a statue of the Prince would be prominent) with some other design.

C. GRAY.

Now it would seem really, from one sentence in it, that the Lord Mayor had the drawing up of the Committee's report, for, after giving an account of its investigations in the island of Mull, it speaks of apprehensions that the width of the stone near the centre would be insufficient, according to the proportions of the most approved ancient examples, to be consistent with the height of 115 feet. Now the diameter, which we suppose is meant, of the Egyptian obelisks was about one-tenth of the height; but the groups which it was intended to fix round the Albert obelisk would have altogether changed the character of the erection, and consequently ought to have changed its relative proportions. The error of attempting to apply the Egyptian obelisk to the present purpose, and attributing to the monument, has, however, been the cause of the Committee's sad acknowledgment of failure. The monolithic idea has hung like a millstone round its neck.

The important point of expenditure at length stepped in to trouble the Committee's deliberations. It is "unable to name a sum that would represent the ultimate cost." It ought, at all events, to have been able to name the probable amount of the public subscriptions, and to have known that there was a vast difference in ordering a monolith to be hewn from the quarries, squared and sculptured, when labour was almost costless and was directed by arbitrary power, and when it was to be raised for at a higher figure than was ever before paid for it in any country and in any age. Works requiring a large concentration of labour are those which can only be executed when labour is comparatively valueless. We urged this point some time ago, and showed beyond dispute—that what was evident to every man unconnected with the Committee—that most of the work that could possibly be expected from the voluntary contributions of the public would be foolishly sacrificed before an artist's hand could touch the memorial. The Committee now agrees with us that "success would be accompanied by difficulties and by expenditure at present incalculable."

Having anticipated for some time the conclusions of the Committee, we are not, of course, disposed to quarrel with its tardy acquiescence in our views, nor can we hardly regret the time which has been spent in bringing conviction of the soundness of our views. The reply of her Majesty to the report of the Committee affords us every hope that the matter will now be rightly proceeded with, and that it will be no longer a matter of regret that the Committee should have been so long in coming to a decision. The report of the Committee, and the question of having raised the larger existing obelisk is still to belong to the Pope, who planted it in front of the Lateran Basilica. Some other mode of achieving the great object in view, more consistent with our powers and the disposable fund, is to be found. More important still is the suggestion that the Committee might have made, and which we have already alluded to, of the Committee to the design of combining the groups of statuary with some other design." This very plainly reminds the Committee of what its first proceedings should have been, instead of bunting after a huge block of granite, and talking of educating the public to an appreciation of it. The Queen's letter recalls the Committee to its duty—to solve her on the subject of a monument which shall be worthy in its art display of the Prince to whom it will be reared and of the public who have subscribed for it; and she suggests the course which it had better pursue in order to accomplish her desires.

We have all along said that architects and artists were men regularly called on to conceive such works, and consequently must fit to represent, and to transmit to posterity, in durable material, the character of a public benefactor. The poet does the work in verse, the statesman in the senate, and the Lord Mayor at the Mansion House; but the public monument should be the result of an architect's and a sculptor's labour, unfettered by the fancies of artists who have devoted their talents to the pursuit of the easily laudable, pursuits. A soldier fights a nation's battles, a poet sings and a painter pours forth; a statesman makes her laws and an alderman administers them; but her monuments belong exclusively to architects and to sculptors. If they had always been associated with them as they ought to be, we could not have now to notice as something so remarkable the suggestion which her Majesty has so wisely made to the Committee. Now that it comes from the highest quarters it will, of course, be complied with, and the public may confidently leave the subject in the hands of gentlemen, who, by their education and course of thought, are qualified to entertain and competent to give opinions upon it.

**BORING ROCKER.**—A rock-boring machine, invented by Capt. H. N. Penrice (late of the Royal Engineers), is now being worked by Messrs. Hawks, Crawshaw, and Son, in the Claxton Quarries (situated about 10 miles from the town of 7½ ft. in diameter at the rate of from 8 in. to 10 in. per hour. This is far in excess of what is being done by drilling, with compressed air and blasting, in the Mount Cenis Tunnel, and it is a much less costly operation. Immense power may be applied to increase this rate of boring, and it is probable that more than the above may be obtained. It is well worth the inspection of all contractors and mining engineers.—*Engineer.*

**LONDON-BRIDGE STATUES OF THE GREAT NORTON RAILWAY.**—This company, in its order to the House of Lords, have reported that the number of houses inhabited by the labouring classes which they propose to take for the enlargement of their station, in the parish of St. Olave, Southwark, is upwards of 100; that the number of persons employed in the railway amounts to 300; that their bill does not provide for the substitution of houses for them, and that there are plenty of houses and lodgings of the same character to be obtained in the neighbourhood.

## NEW COURTS OF JUSTICE.

OUR readers are aware that the question that this *Money Bill* be read a second time was lost by a majority of two, there being 81 for, and 83 against, the second reading. The decision, however, must be regarded as binding only to the point of the second reading, and the question will be carried over to the next session. Mr. Cowper gave an explanation of the provisions of the Bill, though he had already done so upon its introduction. In 1860 a royal commission sat upon it, which, after taking evidence, made a very able report, in which it recommended that measures should be taken for concentrating all the courts of law and equity—on an object which, he would add, had met with general approbation. It was felt that the present state of the courts of law and equity was exceedingly unsatisfactory, and that the proposed measures, if carried into effect, would be the result of accidental circumstances. The distance of the courts from the offices, and also from the chambers of barristers, was a source of the greatest inconvenience. It was also a legal reform, tending to promote the much-desired fusion of law and equity, that this scheme was pressed upon the House. The reason for dividing the Bill into two was that they were obliged to take private property, which would involve inquiry *ad status*. The *Money Bill* was drawn to empower the expenditure of £1,500,000, which, realised, might be estimated at £1,400,000; and the fund that whatever money was expended under the operation of its provisions was to be voted by this House. When the courts were erected, the premises now occupied in Chancery-lane and in Southampton-buildings, and also the probate registry, would no longer be required, whilst the site of the present courts would be valuable, and might be turned to profitable account. Considering the annual value of the charge for buildings at present used, he estimated that the proposed plan would result in a large saving. The operation would not involve any charge upon the public to supply the dividends at present paid out of the funds of the Court of Chancery. What the public were called upon to do was to give a guarantee that in the event of these two funds being required the amount would be taken out of the Consolidated Fund, but he felt that the guarantee was an alarming one as to its practical result. It was extremely unlikely that any charge would fall upon the national funds; but under any circumstances £45,000 was the maximum amount which could become chargeable upon the revenue. Then came the question whether it was a right course in itself to pursue, to take these funds from the object contemplated. He argued that it was. In the first place there were several precedents for the step. Buildings in Chancery-lane were erected by the House of Commons, and were purchased out of a similar fund. The Insolvent Court had also been enlarged at the expense of certain funds of a similar kind in the Insolvent Court. The Irish Four Courts had also been built out of the Siltors' Fund lying in the custody of that court. At the next place, the appropriation of these funds would occasion no injustice whatever to any one. No living person had any claim upon them. Moreover, Acts of Parliament had been passed at various times, authorising the House of Commons to take the funds of the Chancery to invest the same accumulations from the fees of the court. It was therefore competent for the Legislature to decide what should be done both with the accumulated interest and principal. He did not conceive that any opposition would be raised to the measure, and he was not aware of any serious objections. The only opposition which he anticipated was that which was announced in a petition from the Honourable Society of Lincoln's Inn, that society had put forward a proposal for erecting the courts in Lincoln's Inn at a cost of £100,000, and the House would be called upon to consider out of the proceeds of the Siltors' Fee Fund, at the rate of £4,000 per annum. The difference between that proposal and the proposal of the Government was that the latter intended to take the principal of the fund instead of the interest, and to guarantee payment of the interest instead of receiving it. Under these circumstances, he did not see that the Society of Lincoln's Inn could raise any objection to the principle of the measure. There was another question with regard to a schedule, but that was a matter wholly for the consideration of the select committee to which he (Mr. Cowper) should propose to refer the Bill, if the House should agree to the second reading. There were reasons why the courts of justice should not be in the hands of a private body; but, on the other hand, he thought that House would be of opinion that there were several grounds on which it was desirable to erect a Palace of Justice, where the whole of the legal proceedings of the country should be carried on, in the very centre of the metropolis. If the Bill passed into law, the right course would be to appoint a commission to inquire into what courts and offices should be provided for, and to invite all the eminent architects in the country to furnish designs for the building. With respect to the cost, it was loosely estimated at £1,000,000 for the building, and £100,000 for the furniture. The total was £1,100,000 more than the funds disposed of by this Bill; but he thought it very possible that, when the matter came to be minutely considered, it would be found that £1,000,000 would be sufficient for the purpose. Even, however, if the additional £100,000 should be required, the saving effected in other ways would more than compensate for the outlay.

**SUNDAY WORK IN PARIS.**—The *Ami de la Religion* has received a communication sent from the Ministry of the Interior, in reply to an article which has been published on the subject of the desecration of the tombs in Paris, and expressing regret that the Government could not do more to suppress the work, the department, or the city, which every Sunday, the article declared, occupy an army of workmen in labouring the least urgent. The Ministerial note denies the correctness of the statement, and declares that the contractors are not carrying on work on but those which are absolutely necessary. The works at the Opera House were one of the cases mentioned in the article, and to that the note replied that the new buildings are on ground containing considerable springs of water, which require to be constantly drawn off. The contractors are not to be disturbed on that account, the consequence of it are therefore necessarily carried on without interruption, night and day. No State works are continued on Sundays except when exceptional circumstances render that course absolutely indispensable. The contractors for the works of the city are under obligation to discontinue the work on Sundays and fête days, and all the contracts contain a clause to that effect. With regard to the contractors for demolitions, says the note, they make themselves liable to a fine of 300*r*. if they continue their operations on Sundays and fête days.

## ADDITIONS TO THE LOUVRE COLLECTIONS.

IN the gallery of Apollo glass cases have been arranged on each side of the window looking on the quay, a collection of small objects of great antiquity and of the middle ages. In that on the right is the crosse of St. Potentian, Bishop of Sens, and in the one on the left are crosses, obelisks and episcopal crosses, emblems of the sixteenth and seventeenth centuries, &c. The collection of Egyptian antiquities has just received a donation, as regards the beauty of the objects of which it is composed as for the rarity and scientific interest attached to them. This present is from a Polish traveller, Count Tyszkiewicz, who collected the objects during his residence in Egypt. The most valuable objects are 140 bronzes, among which seventy-six small figures of the gods Anubis, Ptah, and Osiris, and of several goddesses, are fine specimens of that kind of workmanship. Most of those objects bear inscriptions, which leave no doubt as to the name of the personage represented. Some of these divinities are very rare or even quite new to science, and several others, hitherto only known by paintings, are wanting in French collections. In that class may be mentioned a large snake in bronze, 24 inches in length, a god with his head in the shape of a crocodile, and a personage whose head is surmounted by a lotus. The collection of Count Tyszkiewicz contains a great number of seal-stones, in hard stone enameled. All these small objects supply fresh information for science by their furnishing variations of the names of kings and princesses, or a history of persons who assumed an important part under some of the Pharaohs, and thus deserve a place in history. There is also an ivory palette for a scribe, furnished with its reeds, and with two cakes of red and black ink, scarcely touched. The reeds are cut at each end, one for the red and the other for the black ink. A knife of yellow bronze is remarkable for its fine workmanship for its keen edge. Work in precious or hard stones is represented by three small objects of great beauty, and may serve as points in the history of the art, as new as their date. The most recent is a small ivory palette, which bears the name of a functionary in the time of Osorkon IV., who reigned in the ninth century before the Christian era; the head of the goddess Hathor is engraved in relief on this object. A pendant of a necklace, the material of which resembles chrysothem, is provided with a small figure of the lower surface bears the name of the Princess Nefertari, daughter of Thoutmes III. This jewel was, therefore, not at least 1,500 years before the Christian era. Engraving in relief on hard stone was, however, executed in Egypt in the most important period, a proof by a small square seal in sardonyx, bearing at the back the name of Amenemhet III., of the 12th dynasty. This king, who is well known as the founder of the famous labyrinth, belonged to the powerful family which ruled Egypt from the 12th to the 18th dynasty, the bottom of the Nile was the name of the Shepherd. At the back part of the amulet the king is represented as overthrowing an enemy. This scene and the Royal motto are incised. On the other side is engraved, in relief, an Egyptian hieroglyphic inscription, which is a record of the king's reign, and is a sign of this sardonyx (about half an inch), there can be easily recognised the style peculiar to that fine period of Egyptian art. There is also among the collection a fine specimen of a coffin-lid, in yellow varnish; an earthen cup, enameled in brilliant colors, and a wooden footstool, of a simple form, but valued for its preservation.

## THE ACTION OF GALVANISED IRON ON WATER.

As A. HAYES, M.D., in the *Mechanics Magazine*, says, iron pipes covered with a firmly-adhering surface of zinc more or less pure, are used as condut pipes, under the received supposition that the zinc, by its polarizing action from contact, will preserve the iron from corrosion, in the act of itself suffering oxidation. As the oxide of zinc, formed under some circumstances, adheres to the metal and encrusts it with a body not soluble in water, it has been assumed that water, passing through such pipes, would not become contaminated by either iron or zinc oxide. Some months since, I analysed some well-water, which had produced a white deposit in the culinary vessels in which it had been boiled, and was itself so turbid. The deposit proved to be oxide of zinc and iron with organic matter, and the water held suspended and dissolved organic salts of both these metals. On leaving the pipes which had been long in use, a residue was left, and that suitable precautions should be taken to avoid using the water in preparing food; and by insuring a large flow of water through the pipes continued for several weeks, the possible formation of a protecting surface was expected. But after less time was required to make the water clear, and the water was free of the water in the pipe and that in the well did not indicate any diminished action on both the metals. The zinc exposed to this water not only dissolved in it, but the iron was also gradually becoming protected by the insoluble metal in contact with it, and the quantity of salts formed from both metals was so large as to render it unfit for general domestic use.

Some weeks later I received a sample of water from a more distant town, the purity of which was ascertained, and was found to contain a considerable quantity of zinc and iron, although colourless and transparent. In this case the galvanised pipe had been longer exposed, and symptoms of anomalous disease in the family consuming the water, led to the chemical trials. The acid present in both the water and the residue, was the same, and the residue was found to be a compound salt. When the water was boiled, especially in metallic vessels, a white deposit of oxide of zinc and iron, with altered organic matter, appeared, and the water continued to be used, without any diminution of the salts.

The observed loss of protection in this exposure was deemed a point of much interest, for I had separately examined iron rollers protected from corrosion by zinc, and which were used in the same manner, and in the same water, for the last thirty years, under varied circumstances, where the protection seemed to be nearly complete.

Mentioning these facts to my friend, Dr. Samuel L. Dams, of Lowell, he suggested the idea of zinc surface failed to protect iron surfaces exposed to the flowing water of the Merrimack River, and showed me the result of such trials; the iron being much corroded both near by, and remote from, the protecting metal.

As the water which was used in the trials was from a well, and the water is quite common in every part of New England, it seems doubtful, in a sanitary

point of view, if such pipes are proper for conducting water generally; for, even when care is exercised, the metals dissolved in the water will surely be found in the foot parishes or by fumes arising from the water.

I am aware that many persons consider both zinc and iron compounds when taken into the system as not actively poisonous, if even harmful, compounds of iron especially being found in the system. The chemical fact of the most importance in this connection is that the compounds of iron naturally found in the system are derived from compounds of iron existing in the food by the simplest transformation, and that other forms of combination will not supply them, and are active extraneous bodies which leave their marks on the stomach tissues.

In illustration of the activity of an iron salt when the dose is very minute, the effects of chalybeate waters may be instanced, and there are few medical men who have not witnessed the most surprising changes in the system induced by these, even when the ordinary preparations of iron have failed in their action. Now, in most of the ferrous waters it is the erenate of the protoxide of iron which occurs—the same salt which the galvanised pipes produce—while the iron is not found as the well-known oxide but in the state of an active salt corresponding to the iron compound, and has no claim to consideration as a body forming healthy secretions.

## TIMBER PROOF AGAINST THE WHITE ANT AND SEA-WOIL.

THE *Australian Mail* gives some notes on a timber grown in Western Australia which is said to be proof against the white ant and sea-worm. It is commonly called "mushum," and is said to be used by the natives in many places, thus even in the ordinary preparations of iron have failed in their action. Now, in most of the ferrous waters it is the erenate of the protoxide of iron which occurs—the same salt which the galvanised pipes produce—while the iron is not found as the well-known oxide but in the state of an active salt corresponding to the iron compound, and has no claim to consideration as a body forming healthy secretions.

The principal part of the timber trade of the colony of Western Australia is the Yuse, from whence extensive shipments have been made to the eastern colonies of Australia, Ceylon, and some of the Indian railways. A quantity has also been supplied for Government works in the Mauritius.

The average consumption of the Yuse for Government purposes was about 500 loads per annum, and in 1856 a contract was entered into for the supply of a quantity of timber at Fremantle for 5½ p. 6d. per load. A small advance was afterwards made on this price, but since that time the trade has been extended sufficiently to allow the employment of machinery, and the construction of trams for the conveyance of the timber to the port of shipment, so that the prices are much reduced. In cutting up the sand-grown timber, a waste of about 16 per cent. occurred. The loss in entering up the logs from near the hills was not nearly so large as 10 per cent., as the cores of these logs were in general round.

The chief expense incurred in obtaining this timber is the cost of transport to the place where it is to be used. The cost of the timber is about 10 p. 6d. per load, exceeding 400 loads, it would be worth while for the captains of the convict ships, about three of which per annum leave Western Australia for Ceylon or India, seeking cargo, to take it in as cargo for India, &c., and it is believed that in this case freight could be obtained for less than 10 p. 6d. per ton. The charge for freight would probably not exceed 24s. a ton, or 30s. a load, which would be about 8½ p. per foot—say 9d. The engineer of the Colombo and Kandy Railroad in Ceylon, said, in 1856, that he could afford to give 27 s. a load for timber fitted for piles, stringers, or sleepers; and since that time a considerable order has been given to parties in the colony, on account of this timber, so it is fair to presume that the price at Ceylon did not much exceed 27 s. The cost of these sleepers at Madras has been 10s. each, which is about the same as that of the Indian woods of the best class. It has been supplied to Adelaide, South Australia, and Melbourne, Victoria, in scantlings fit for railway purposes, for less than the price above estimated.

Captain Wray, Royal Engineers, says:—"As regards its properties, I have myself used upwards of 3,000 feet of it in buildings, jetties, and bridges, and I have examined timbers which have been exposed to the action of the white ant and sea-worm in situations where it could have been destroyed, if liable to destruction from either of these causes, and I never saw any penetration deeper than the sap wood, though deep decay had taken place in some cases, and I saw it. This immunity from destruction is generally attributed to its containing large quantities of gum resin. The strength and elasticity is about equal to Riga pine. This was ascertained by the tests of the Indian woods of the best class, 12 feet, conducted by Mr. Manning, Clerk of Works at Fremantle. The weight of the timber makes it inapplicable to moveable joiners' work, such as doors or sashes; but the white ant, only working in the dark, will not attack these unless a building is left unoccupied for some time. I know of no objection to it, except that it is somewhat slow to season, and, if exposed before seasoned, will fly, and cast, perhaps, rather more than other timbers. The plan lately adopted in Western Australia to season it was to leave the logs in the sea for a few weeks and then draw them out by the end, leaving a few inches of seaweed, taking care to prevent the sun getting at their ends. My experience led me to the conclusion that logs might lie in this way without injury for almost any length of time. Boards were made of the same size, and stacked so as to admit of a free circulation of air for five or six months before using."

The consulting engineer of the Madras Railway says "the wood is well spoken of by our engineers. The trial has as yet been made to enable the qualities of the wood to be thoroughly tested on the Madras Railway, and the engineer says, in January, 'that those placed on the road in July are in good condition at this date, and form an excellent opportunity for test in grider bridges. Some specimens now coming from the colony to the great Exhibition will supplement this report in respect of proof of durability, both under sea water and in situations where it is liable to attack by the white ant, as there will be exhibited logs that have been in the water for periods from four to twenty to thirty years, without receiving the slightest injury."

## ARCHITECTURAL INSTITUTE OF SCOTLAND.

THE Architectural Institute of Scotland have issued the twelfth report of the Council of the Institute, which the Institute has been indebted during the past session for communications to the following gentlemen:—

1. Commo Innes, Esq., Professor of Universal History in the University of Edinburgh, Introductory Address, Subject, "Suggestions for the adaptation of Architectural style to the requirements of the present age."

2. David McWhorter, Esq., "Remarks on the Photographs of the Architectural Photo-genetic Association."

3. Mr. John Lumsden, Esq., architect, "An Inquiry as to the True Principles for our guidance in the Restoration of Old Buildings."

From the course of papers read, it might appear that there had been less than the usual amount of business transacted during the past session, this is not altogether the case, as there have been various subjects of public interest, or of interest to the profession, which have been before the Institute. In particular, the examination of the papers of the late Mr. James Watson, Esq., was the subject of discussion at repeated meetings of the Fellows; and the remonstrances of the Fellows against the pernicious consequences of these operations appeared in the *Building News*. The Council regret to think that Lord Rosslyn should not have yielded to the many representations which were made to him from various quarters on the subject.

Another subject which was brought before a General Meeting of the Institute, and was subsequently taken up by the Fellows, is one which has created much interest among architectural societies during the past year,—viz., the subject of establishing a course of study and examination for diplomas for architects. As this subject is still before the Fellows, and no definite conclusion has been come to by them, the Council cannot do more than say that it has met with a general approval—it being considered that at present the profession, for want of some test or another of qualification to join it, does not possess that status which it ought to possess.

The Council further state that, having been applied to on the subject of the Institute's joining the Architectural Alliance which was proposed of the various architectural bodies throughout the country, after several meetings, resolved that it was desirable to join the Alliance, and that Messrs. David Rosslyn and Puddle, architects, Edinburgh, were appointed to represent this Institute at the meetings of the Alliance.

The International Exhibition of 1862 has been already accepted a considerable share of the attention of the Council, and the Council desire to endeavour to obtain such representation of the state of architecture in Scotland as might be worthy of the country. Whether it will be so remains to be seen; but the Council state that they understand that not more than about twenty architects in Scotland have appeared at the Exhibition, and that Messrs. David Rosslyn and Puddle, architects, Edinburgh, were appointed to represent this Institute in the General Architectural Committee in London, in connection with the Exhibition; and have been considering the means of obtaining a representation of the works of deceased Scotch architects.

The honors offered by the Institute to apprentices were gained, last session, by the following young men:—

I. For the best specimen drawing. Messrs. John McWhorter, apprentice to Messrs. Baird and Thomson, architects, Glasgow; and Edward F. J. Clarke, apprentice to Mr. David McWhorter, architect, Edinburgh—equal. Second Prize—William Doherty Doherty, apprentice to Mr. William Fairbairn, architect, Edinburgh.

II. For the best perspective drawing. Under this head was worthy of the distinguished honor a book by Mr. James Kennedy, Esq., architect, Glasgow.

III. For a series of drawings from old buildings, measured and drawn from the originals. Messrs. Baird and Thomson, architects, Glasgow; and Messrs. Baird and Thomson, architects, Glasgow; and Messrs. Baird and Thomson, architects, Glasgow.

IV. For the best original design—subject, a book of buildings for private dwellings. The Council have awarded the medal to James Bontar, draughtsman to Mr. James Baird and Thomson, architects, Glasgow. The second prize of a book in *Architectural Drawing*, by Mr. William Tait, architect, Glasgow.

In modelling, no prize was offered this session; but a book was awarded for the model of a cornice enrichment sent in by James Kennedy, Esq., architect, Glasgow.

The Council have announced the following as the subjects of competition for the present year:—

I. For the best geometrical drawing, being an elevation of any existing example of Guelphic or French architecture, to be completed for by apprentices or not more than three years' standing of any Scotch architect.

II. For the best perspective view drawing of any existing example of architecture, projected or executed, to be completed for by apprentices or not more than three years' standing of any Scotch architect.

III. For the best drawings of a small portion of any ecclesiastical building—scale, 4 inches to 1 foot—with details one-fourth of full size; measured and drawn from the original.

IV. For the best original design—subject, a church bell in perspective—scale, 4 inches to 1 foot—with details one-fourth of full size; measured and drawn from the original.

The 2nd, 3rd, and 4th to be completed for by apprentices or draughtsmen to any Scotch architect. Drawings under 3rd and 4th hands may be taken.

The competition drawings to be lodged at the rooms of the Institute, Edinburgh, on or before the 1st day of March, 1862, accompanied by a mail note containing the authors' names, and inside a separate envelope, to be sealed, and to be opened on the 1st of April. The motto on the letter to conform exactly to that on the drawing.

The prize drawings to be retained by the Institute.

It is now suggested that the desirable to adopt the suggestion of the professional members made some years before, that, in lieu of Transactions, the Institute should publish a series of lithographed engravings of select examples of buildings, ancient and modern. There have been some practical difficulties in carrying out the suggestion, and the Council have approved of it at the meeting at which the report was read; and the Council have resolved that, for one year at least, the resolution to publish engravings shall be suspended, and the Institute shall publish another volume of Transactions.

From the abstract of the treasurer's accounts, it is gratifying to find that the finances of the Institute are in a good state, and, referring to previous years, are improving. This state of matters has principally arisen from a reduction of the expenses of the Institute.

The report is signed by Messrs. J. Dick Peddie, Chairman, and William Miller, Hon. Sec.

The Transactions of the Institute, tenth and eleventh sessions, are also published. The fourth part of the fifth volume. The part contains Introductory Address, by Professor Blackie and Mr. Commo Innes; a Notice of the Life and Works of W. H. Playfair, by Mr. J. M. Graham; and an Inquiry as to the True Principles for our Guidance in the Restoration of Old Buildings, by Mr. Lumsden.



BODELWYDDAN CHURCH, NEAR ST. ASAPH.—MR. JOHN GIBSON, ARCHITECT









An enormous quantity of water was introduced into the Temple, to carry off all the blood and oil of the sacrifices, which would have been a very inconvenient matter if not taken away. He then pointed out a number of conduits which had been discovered by Signior Pierotti, and which evidently had been in conjunction with the removal of blood and oil from the Temple. Mr. Williams resumed his seat amidst applause.

Mr. WIGLEY (who is well acquainted with Jerusalem) made some remarks in French, in the course of which he bore testimony to the value of the discoveries made by Pierotti.

Signior PIEROTTI made a few observations in reply, also in the French language.

The CHAIRMAN, on behalf of the meeting, thanked most heartily Signior Pierotti and Mr. Williams.

Shortly afterwards the meeting broke up.

#### SOCIETY OF ARTS.

At the meeting of this society on Wednesday last, Mr. HENRY COLE in the chair, a paper was read "On the Effect of Prizes in Improving Manufactures," by Mr. SAMUEL SYDNEY. The author said that the question to be examined was, whether under any circumstances the improvement of manufactures can be promoted, or manufacturing inventions stimulated, by invitations to compete for substantial or honorary rewards. It was one that ought not to, and need not, be discussed on theoretical grounds, as there was the experience of centuries of trade to refer to, and the records of more than one society. He had no doubt that the general impression amongst the wealthy and educated classes was in favour of the prize system; his own opinion was the contrary. He thought that the considerations formed on this subject were founded on the *post hoc, propter hoc* fallacy, and that the real cause of the advance in various manufactures was the daily increasing demand, and competition among manufacturers, and not the prizes given at exhibitions or elsewhere, as there was the important manufactures of this country had been carried to their present perfection by the ordinary demands of trade competition. No prizes or honorary rewards of an official or unofficial character had ever been bestowed on, or offered to, the authors of the steps by which the iron manufacture, the manifold hardware trades of Birmingham and Sheffield, the woolen, cotton, or linen manufactures, had become famous throughout the world. The manufacture of marine steam-engines, in which such wonders had been effected during the last ten years, and the locomotive engine, had all found sufficient stimulus for daily improvement in commercial enterprise and commercial demand. It might, however, be asserted, that prizes tended to promote solid improvements if they failed in producing great inventions. This view, however, the author combated. He argued that it was extremely difficult to find really competent judges, and that, even if these could be found, how few were the instances in which it was possible to test, in a satisfactory and practical manner, the comparative merits of manufactured articles. His judgment could be founded on evidence. There were very rarely available reliable evidence to guide judges in deciding on the relative merits of manufactures and machinery; therefore such trials and such verdicts had better be avoided. Their tendency was often to unfairly raise, and unfairly to depress, manufacturing efforts, and they only mystified the public. The author thought that the admirers of the prize system were in the habit of overlooking the advantages of public exhibitions and the public competition of trade with prize competition. He brought forward evidence in support of his views from the awards made at the Great Exhibition of 1851, as well as those of the Royal Agricultural Society for many years past.

Mr. WILSON said he did not think it was a question of prizes in the abstract, but of collecting together the best kinds of productions.

Mr. HAWES then said that Mr. Sydney had taken a very narrow view of the question. The principle of giving prizes in an International Exhibition was quite different to the matter contained in the paper. The Exhibition was for the purpose of making known inventions which could not be obtained by any other means, as the public would not judge of inventions.

Mr. PALMER said that the prizes awarded by the society had a very beneficial result. If they gave prizes for merit, why should they not give prizes for manufacture? He thought a certain system of prizes should be continued, but that more judgment should be exercised in their distribution.

Mr. NEWTON WILSON differed from the view of Mr. Sydney. He did not see why manufacturers should be excluded from prizes, as the future fame and position of an inventor depend on the publicity of his work. The increased production of prizes in America had been a stimulus to the increased production of manufactures thus noticed. He most strongly advocated the reward of merit, where practical. The Commissioners of the International Exhibition were, perhaps, right when they decided not to fix the position of merit, but to leave the public to judge for themselves.

Mr. SOLOMONS said it was quite clear that if they had not decided upon giving prizes at the approaching Exhibition, they would not have had 4,000 French exhibitors. He was decidedly adverse to the system of prizes being abolished.

Mr. EDMONDSON said, with respect to the order of merit, it should be so arranged that prizes should be given to inventors who produced the greatest amount of usefulness at the least cost.

Mr. BIGLOW (an American gentleman) said he had seen the working of the prize system in New England, and the result was a great improvement in the mechanical arts. He was an exhibitor, and if there had been no prospect of a prize for his invention he certainly should not have gone to the expense of coming over here.

After some further discussion,

Mr. SYDNEY said prizes would do no harm for things which were wanted; but it was a snare and a delusion to give prizes for inventions for novelty alone, and which were hardly of any practical use.

The CHAIRMAN mentioned that Prince Napoleon had lately entered his most emphatic protest against prizes.

**SOCIETY OF ARTS.**—The Society of Arts, with the view of showing hospitality to the Commissioners, guarantors, jurors, principal exhibitors and others connected with the approaching Exhibition, and especially to our foreign visitors, will hold three evening receptions at the South Kensington Museum, on the 7th of May, 9th of July, and 9th of October.

#### LIVERPOOL ARCHITECTURAL SOCIETY.

THE fourteenth meeting of the present session of this society was held at the Royal Institution on Tuesday evening last. Mr. Scarsfield was elected an associate member. Mr. Heffer called the attention of the meeting to the death of Mr. John Thomas, sculptor, whose death he had seen mentioned in the papers. He was sure that all who were acquainted with the deceased gentleman's work would agree that he was one of the most original and talented. Mr. Thomas had executed many important and admirable works, both in sculpture and architecture. He (Mr. Heffer) had been a pupil under Mr. Thomas, and felt his loss very deeply; for he was not only a great man as a designer, but he was also a good man, and was highly respected wherever he went. He was also a charitable man, but never acted with ostentation. For the last four or five years he had been largely engaged in works for the late Prince Consort, at Windsor Castle, the Chapel Royal, and at Balmoral, and the skill and taste exhibited in his work were greatly admired. Mr. H. P. Horner, who had been elected Mr. Thomas was a man who had raised himself by his own talents, and he was sure that anything communicated in reference to his career would be found interesting. The Chairman said he would suggest that Mr. Heffer read a memoir of Mr. Thomas at the next meeting. Mr. Heffer said he would do so.

Mr. FRANK HOBNER then read a paper on "Some of the Relations existing between Modern Literature and Art." The paper, described at some length the progress of art and literature in this country, and the influence which they exercised on each other. The Chairman, at the conclusion of Mr. Horner's paper, said that he thought they ought to be on their guard against receiving all the shallow criticism that emanated from the press in regard to architecture, for some of it was of such value. A conversation took place, in which the Chairman, Mr. Councillor Pleton, Mr. H. P. Horner, and other gentlemen joined, in regard to literature and art.

#### BODELYWYDDAN CHURCH.

IN our present Number we give a view of the exterior of Bodelwyddan Church, near St. Asaph. Views of the interior, and some details, will be found in our last volume, together with a description of the work. As there mentioned, Mr. John Gibson was the architect.

#### ROAD FROM BAYSWATER TO BROMPTON.

THE new approach to the International Exhibition from the north-west districts is now nearly completed. The entrance to the park is through the Victoria-gate, Bayswater, and the old road is followed, without any material alteration, to the foot of the bridge. The foot of the bridge is now the entrance to the bridge is increased by about 6 feet, taken from the side path for pedestrians. The carriage-road south of the bridge is followed until it joins Rotten-row, nearly opposite the eastern dome of the Exhibition building. From the junction of Rotten-row is divided by posts running along its centre to the Queen's Gate. The half next to Kensington-gardens forms the continuation of the road to the Exhibition, and the other half is left for the use of equestrians. Along the whole line there is a side path for pedestrians, and the exit is through the Queen's Gate, within a short distance of the western entrance to the Exhibition building.

#### CHIMNEY-PIECE AT THE INTERNATIONAL EXHIBITION.

AMIDST the one would think, hopeless confusion, in the shape of empty packing-cases and unpacked articles in a week or so to astonish the world at Brompton, we occasionally catch a glimpse of some work which tells of the energy and spirit with which the collateral branches of the building trade have entered into the contest. Not only is the Medival Court to show a marked advance upon the collection which Pugin was, eleven years ago, enabled to make, but Hart, Skidmore, and other metal workers, Minton, and numerous tile makers, sculptors of every style, seem determined to win high honour in this international encounter.

We have been asked to direct attention to a chimney-piece, by Mr. G. Mitchell, of Walton-street, Brompton, which appears on another page. It is beautifully carved in every part, and the pure statuary style, which it secures, is admirably contrasted with the kind of carving now standing on the south side of the eastern dome, and its production has, we believe, entailed a sacrifice in time equal to some £200 upon its spirited exhibitor. It is 8 feet 2 inches in width and 4 feet 1 inch high. The shelf is nearly 2 feet in front, and thus allows the sides to be carved in a similar manner to the front.

#### LONDON AND MIDDLESEX ARCHEOLOGICAL SOCIETY.

A GENERAL meeting of the members of this Society and their friends will be held on Monday, April 28th, at 12 o'clock precisely, Mr. Alderman T. Q. FRYER in the chair. The members of the Society, the King's permission, the masters and wardens, meet at Bakers' Hall, 66, Finsbury-lane, Tower-street, E.C., and from thence proceed to visit the churches of All Hallows, Barking; St. Olave's, Hart-street, and St. Dunstan-in-the-East. The meeting will, it is expected, be addressed by the following gentlemen—The Rev. Col. Massell, the Rev. A. Povah, Mr. Deputy Lott, Mr. J. G. Waller, and Mr. George Curzon. At the conclusion of the meeting dinner will be provided at the Mark-lane Coffee House. The annual general meeting of the Society will be held at No. 7, Mildred-street, on Thursday, May 8th.

**THE DUKES OF NORTHUMBERLAND AND THE THAMES EMBAKMENT.**—The Duke of Northumberland, who has a property along the river side, has petitioned the House against the bill for the Thames Embankment, and prays that he may be heard by himself, counsel, agents, and witnesses, before the committee appointed to consider the subject, in respect of any provisions contained in it prejudicial to his rights and interests.



the pile of hospital, and forms a continuation of the Banks' wing. It is in the early English style of architecture, built of Ridgway random coursing, with Portland stone dressing, surmounted with a bell turret and spire. At the east end there is a large three-sided bay, the transoms of which are inserted on each side. The roof is formed of semicircular ribs, with diagonal boarding. A gallery at the west end has been constructed over the lobby entrance from the men's ward to afford extra accommodation, and this communicates direct to the women's ward on the upper story. The fittings are of red deal and pine, stained and varnished, the open benches affording seats for about eighty. Under the chapel there is a lobby open to the yard by two large arches, for the patients to resort in bad weather. Mr. B. Ferrey is the architect; the work has been executed by Mr. Waller, and the cost is £1,000.

**Keal.—New Wesleyan Chapel.**—The first stone of a new Wesleyan chapel about to be erected at Keal was laid a few days since.

**Clifton Wesleyan Chapel.**—We understand that, on Tuesday, the foundation stone of a new Wesleyan chapel was laid on a site in the Queen's-road, Clifton. The building is in the Gothic style of the 14th century. The plan of the chapel is a parallelogram 85 feet long by 40 feet wide, including front lobby, and there will be a gallery at the west end. A lobby under the gallery enters the entire width of the chapel, and is entered from the outside by a deeply-recessed doorway under a canopied gable in front, and through a porch on the south side. A turret on the north side contains the entrance and staircase to gallery. The chapel is lighted by three large traceried windows in the west end, and by two light windows on each side. There will also be a circular window in the gable of the east end. The roof will be open, the trusses being arched, and bearing on freestone shafts, with carved capitals on bases, which will rest on carved corbels. The ground on which the chapel stands has been excavated to a depth of 10 feet and filled in with earth, it was necessary to excavate to a considerable depth before a proper foundation could be obtained, and it was, consequently, determined to form a large room on the chapel floor. This room will be the entire area of the chapel, and 15 ft. high and will be lighted by windows on the north side. There will be a vestry 31 ft. by 17 ft. on the same floor as the lower room, and two smaller vestries on the chapel floor. The chapel will accommodate about 700 persons. The building will be of Portland stone, and the roof of red or grey stone. The architects are Messrs. Fosters and Wood, of Bristol.

**West Ashling, Sussex.**—A chapel is about to be erected at West Ashling, Sussex, from designs by Mr. Horatio N. Gouley, architect, Brighton. An interesting circumstance in connection with this erection is, that it was due to the built of the stone that once formed the tower and spire of Chichester Cathedral. It is to be built in the early English style, and will accommodate 300 on the ground floor, provision being made for the erection of a gallery at a future time.

#### SCHOOLS.

**Abney-lane, Suffron Walden.**—Additions are being made to the school-room just completed at Abney-lane, Suffron Walden, Essex, by the erection of an infant class-room and two separate rooms for senior scholars. The work is being carried on by Mr. Wright, the contractor for the original building, under the direction, and from the designs of Mr. Horatio N. Gouley, architect, Brighton. **Windsor Royal Free School.**—The school at Windsor, which was erected for these combined institutions was formally inaugurated on Monday. The Windsor Free School was originally established in 1705, the number of scholars at first contemplated being 40 boys and 30 girls. During the next century the institution continued to flourish, and the number of scholars was augmented by successive donors, till they nearly reached £5,000. The population of Windsor having, concurrently with these changes, greatly increased, in 1819 the trustees applied to the Government for a charter to extend the charity so as to include 100 boys and 100 girls. Failing in this application, they, however, then established a National School, and it has long been felt desirable that the two kindred institutions should be amalgamated. The limited and inconvenient nature of the old buildings has hitherto been a bar to the full carrying out of that project; but their union has at length been consummated, under the sanction of the Charity Commissioners, by the location of the two schools upon the same site, and, in fact, under the same roof, their joint title being 'The Windsor Royal Free School and National School.' The building, which is calculated to accommodate 500 scholars of both sexes, is a plain red brick structure. The original plan embraced greater architectural pretensions, but the Government, as a condition to the bestowal of its grant in aid of the building fund, insisted on the rigid exclusion of all ornamentation from an edifice designed for a strictly charitable purpose. The boys' school is on the ground floor, and the girls' school above, and both are admirably adapted for their use. The boys will be taught gardening and other industrial employments; while the girls will be fitted for domestic service by being trained in the arts of washing, sewing, &c. The total cost of the site, buildings, and fittings is £24,000.

**Ashton-under-Lyne.—New Independent Schools.**—These new schools, the foundation-stone of which was laid three months since, have just been opened. The main feature of the new building, internally, is the large hall, the internal dimensions of which are 100 feet by 10 feet (exclusive of recesses on each side), and 25 feet high to the tie beams. Including the recesses, the extreme internal dimensions are 116 feet by 77 feet, and the centre portion of the ceiling (which rises into the roof) is 35 feet high. The hall is lighted by 24 windows, 4 feet high; that at the east end for speakers or lecturers, and the opposite platform for an organ. The north-side room is separated from the room by a partition, and is divided into two compartments for the use respectively of secretary and librarian. Each side recess has two sets of columns, one with the other and gold foliated capitals; and from these columns spring a central and two smaller arches, with pinnated soffits. Ingress and egress to and from the great room are by five staircases, four of which communicate with two stone staircases, and the other with a lesser stone staircase, intended for access to the speakers' platform and reserved seats. In connection with the speakers' platform is an ante-room, also entered from the platform staircase. This room is fitted up for a young men's class, and is entered from the main hall. The room on the ground floor, is a class-room of the same dimensions, which contains a gallery for 200 infants, and is very lofty. On the ground floor of the building are ten class-rooms, of varied sizes, the largest being 30 feet by 14 feet, and the smallest 14 feet by 13 feet. There are also two class-rooms, one for the other, and 14 young men, correspondingly; each set is approached by separate entrances and corridors. In the centre of the ground floor, and dividing the sets of class-rooms, is a lecture-room, designed for the form of an amphitheatre, with rising seats, capable of seating 600 persons. This room is entered by folding-doors from

each corridor, and private entrances are provided to the lecturers' platform. The style is Italian, of white and red bricks. The cost of the whole undertaking will be about £18,000. The works have been executed from the designs, and under the superintendence of Messrs. Pugh and Aylliffe, architects; and the general contractors are J. and J. Longson, of Stockport.

#### Reviews.

*An Account, with Illustrative Sketches, of Cranston's Patented Buildings* applied to Horticulture. 4to. 2 Temple-lane West, Birmingham.

THIS "Account" shows, in a series of lithographed sketches, with descriptive matter, a model proposed by the author for the construction of horticultural buildings on a patented principle, applicable to both large and small erections. Of the merits of the plan, we need not say more than that it is simple, and appears to combine practical utility with some artistic effect. The smallest structure shown is a lean-to, 7 feet wide, erected against a garden wall. The principle of its construction is the descent of the roof from the top of the wall.

There are four compartments in the plan fitted with glass, each 34 feet long, three compartments towards the front, and one over the wall facing the contrary way, and these divisions are separated by what has been called, to distinguish them clearly, "radial ribs," fixed edge-ways, and running lengthways of the building under the lower ends of the bottom rafters, and between the top and bottom ends of all the others; each radial rib, in all cases, irrespective of the shape or size of the building, is 10 feet wide, and is so placed, wherever, best performed for ventilation, by small openings close to each other, from end to end, and having a valvular apparatus on the inside of it, for properly regulating the pressure and degree of the admission of each breeze. The top ends of the rafters are secured, and upon the top side of it the feet of the rafters rest. The external aspect of a roof so framed presents to the eye a series of planes fitted with glass, divided into compartments, and having the rafters, and bottom ribs, and the top ribs, and the top ribs, to make the top of one plane recede a few inches, that the lower end of the plane immediately above it might project and overhang. The rafters are themselves fixed to other timbers, put together in the shapes necessary to receive them, and which act as "principals," spanning the house internally at intervals of about eight feet.

In other words, the sides or roof of the house is tilted about every three or four feet, the tilting-pipe being perforated for ventilation. The construction is simple—

so that when it is necessary to pull down and re-erect the house this can be done by any workman without waste of wood or glass, each rafter, as well as every radial rib or other beam, being secured again at the top of the rafters, or by the process adopted with the assistance of his servant, either pull down and re-erect one of these houses, or put it up in the first instance for the purpose of erecting another. The rafters are fixed to the rafters, to be fixed there by screws, as readily as an iron bolted to a fitted joist. In new houses all the timbers will be numbered and marked, the screw-loose bolts, and screwing down before they are packed up and sent off, to make the work of erection as easy as need be.

**On Iron Breakwaters and Piers.** By E. B. WERN, Civil Engineer. 4to.; Lookwood and Co.

THE author of this work believes that he has designed a breakwater free from disadvantages which attend the employment of either solid or floating structures. In its simplest form it is described as being "supported on cast-iron cylindrical piles, sunk into the ground, or by the process adopted in the construction of the Morecambe Bay Viaducts." The piles are filled internally, to above high-water mark, with concrete; to these are fixed girders, or beams of iron, placed, as a convenient distance, at 10 feet apart. The girders are so placed, that they will be fixed into the ground, and the concrete will be on the surface of the breakwater which rises above low-water mark. The piles resemble glass or water mains, but are of cheaper construction. The ends of these pipes are securely fixed in the sockets of the girders by cross-rolled wooden wedges, which, while keeping up the ends of the pipes, relieve the girders from the effect which the blows of the waves acting upon iron against iron might otherwise produce. The space between the pipes admit a certain portion of the waves to pass through, diminishing the force of the blow of the waves and preventing any disturbance to the surface water under the harbour. A set of similar piles is fixed vertically between the piles in the front row to a depth varying, according to circumstances, from 6 to 12 or more feet below low water.

The author, for the sake of greater breakwater, durability, strength, power to create smooth water harbours, facility of construction, alteration and repair, and economy of cost.

**CHATHAM BARRACKS.**—The Admiralty have decided on the immediate enlargement of the barracks, in accordance with the plans laid before Parliament some three or four years back, when the sum of £50,000 was taken in the Estimates for the proposed work. Of this amount a considerable sum has already been expended in the purchase of the land on which the additional barracks will be erected, and the proposed improvements, consisting of the removal of one large hotel, one tavern, and about twenty private houses. The whole of these have been taken down, and the site cleared as far as the boundary wall of St. Mary's parish church, to which the new barracks will extend. The plans for the new barracks have been approved by the Admiralty, and the work will be immediately commenced. The block of buildings forming the right wing of the present barracks, inhabited principally by the single officers of the division, will be taken down and removed as far as the boundary wall of the church, which will include the barracks parade-ground to about its present site. The field-officers' quarters, as well as the barracks and other offices, will be removed to another locality. It is also contemplated to take in a portion of Chatham Dockyard, and to throw the barracks back to the public road leading to the New-stairs will not be blocked up, but communication with that portion of the buildings will be maintained either by means of an arch thrown over the road, or by an underground passage. The new barracks-buildings will provide accommodation for

**GIBSON'S TINTED VENES.**—This celebrated statue is about to be lent by its owner to the Commissioners of the International Exhibition. It is by many supposed that Mr. Gibson has tinted his statues to represent life, whereas he uses a material made by colour to soften the general effect, and to give the appearance of ivory, a material much used by the ancients. This statue was executed ten years ago for Mr. Robert Borthwick-Preston, and by his permission remained in Gibson's studio at Horse-church, and was not until the present occasion in its owner's possession, although never exhibited until the present occasion.

## Correspondence.

## BIRMINGHAM AND MIDLAND INSTITUTE.

SIR,—Some of your readers have probably seen with surprise a recent advertisement inviting architects to send in designs to finish the Birmingham and Midland Institute, of which I am the architect.

In the year 1855 a limited competition was entered into for this building by nine architects (one of whom is since dead), the condition being that the selected architect should receive no more than £100, but should be entrusted with the professional superintendence of the work. My designs were chosen, but, owing to financial difficulties, only one half of the building could be then erected, and this was completed some years since from my drawings and under my superintendence. The Town Council of Birmingham, being now desirous of having a free library, propose to build it in connection with the Institute, and thus complete the latter building.

At their request I have furnished them with a complete set of upwards of fifty drawings and other drawings, specifications, &c., but on advertising for tenders it has proved impossible to erect the building for the amount of my first rough estimate, which was based upon the cost of the first half of the works. On this being ascertained, I at once offered to forego all claim for remuneration for what I had done, and to prepare new plans to suit the financial exigencies of the case.

The first part of my offer was at once accepted, and the only answer to the latter has been an invitation to other architects to furnish plans to complete the building, according to my elevation, which invitation is accompanied by a block plan, copied from one of mine, which the Council happen to possess.

I cannot suppose that such an invitation will be responded to by any one who either respects himself or the profession to which he belongs; but, feeling that on public grounds the matter ought not to rest where it is, I have placed it in the hands of my solicitor, and am advised that the proposed competition cannot be legally carried out, and that those who may take part in it will consequently lose their time and labour.

You will see by the enclosed statement the opinion of most of the competitors in the original competition in 1855, and I have been assured by those of the latter whose names are not appended to the statement that they fully concur in its views. EDWARD N. BARRY.

1, Old Palace-yard, 22nd April, 1862.

## ENCLOSURE. March, 1862.

HAVING furnished designs in the original competition for the Birmingham and Midland Institute, I am of opinion that it would not only be unjust to Mr. Barry to entrust the completion of his design to other architects, but such a course would be a direct loss of the engagement entered into by the Institute at the time of the competition, to entrust the architect of the rejected design with the professional superintendence of the building. (Signed by) H. BOWMAN, J. GIBSON, E. TAYLOR, J. JAMES, J. LOCKER.

## TENDERS.

BATH STONE OF BEST QUALITY.—Randle and Saunders, quarrymen and stone merchants, Bath. List of price at the stone yard, also cost for transit to any part of the United Kingdom, furnished on application to Bath Stone Office, Cornhill, Wilt.

BATH STONE OF BEST QUALITY.—Bath Hill ground stone; Fairbairn Down, ditto; Combe Down, ditto.—Bath and Stone for all kinds of building, and other, and also in a position to supply the above-named articles in block or salable, of the very best quality, direct from their own works. Delivered to any part, either by rail or water carriage, on the most reasonable terms. Prices furnished on application at the Bath Stone Office, Wiltshire, Bath.

## PIER, BLACKPOOL.

The tender (£11,540) of Messrs. Laidlaw and son, of Glasgow, has been accepted for the construction of the Blackpool Promenade Pier. Messrs. J. B. and K. Birch, engineers, quantities supplied by Messrs. E. L. Curtis and Son.

## SCHOOLS, EXETER.

For building new Wesleyan schools, in King-street, Exeter. Mr. W. Blackmore, architect. Brierley ..... £1,150 Gardner ..... £280  
Moore and Sons ..... 1,065 Moore ..... 952  
Mitchell ..... 1,056 Woodman ..... 870  
Tosser ..... 1,056 Woodman and Son (accepted) ..... 715  
Ware and Son ..... 990

## FARM BUILDINGS, WIGTON.

For erecting farm buildings, at Wigton, for A. Cooper, Esq.—Mr. William Millican, architect, Leicester.

	Amount of Tender.	Allow for old Materials.	Add for Carriage.
Hutchinson	£230 0	£10 0	£10 0
Shore	645 0	14 0	60 0
Thurley	14 0	29 10	0 0
Porter	630 10	—	35 0
Glover	827 0	20 0	30 0
J. Cox	571 0	16 0	20 0
Bell	698 10	7 0	20 0
Dunbury	691 0	16 10	0 0
Davies	571 0	16 0	21 10
Wyles	569 0	19 0	30 0

For erecting new screen wall and Portland stone balustrade; sundry alterations to house at Whitmore Farm; and various other works on the estate of Thomas Holloway, Esq., at Kensington, Brixton. Alfred Smith, architect, Burlington-gate, London. Woodward ..... £1,263 Rowley Brothers ..... £1,700  
Oakes ..... 1,260 Collis and Co. (accepted) ..... 1,544  
Revel and Son ..... 1,067

## HOTEL, BIRMINGHAM.

For the erection of a new hotel, for Mr. Budden, on the Street side of Rochester-bridge, Spier ..... £1,200 Ford and Son ..... £1,200  
Willet ..... 1,200 Ford and Son ..... 1,500  
Hall ..... 1,200 Anonimous ..... 1,611  
Stamp ..... 1,200

COACH-HOUSE, &c., BUSEY.  
For erecting a coach-house, stabling, &c., for Mr. J. Vallance, Kingsland, Herts-pierpoint, Busey. Mr. H. N. Gossy, architect, Brighton. Gossy (accepted) ..... £420

## BANK, NEWARK.

For the erection of a new Provincial Bank, at Newark. Mr. W. O. Murray, architect. J. Hunter, Braden ..... £1,010 Waddingham, Son, Dublin ..... £1,200  
J. Newstead, FETTER ..... 2,941 J. Freeman, Dublin ..... 2,900  
W. Hagar, Cleavel ..... 2,791 Hyatt and Son, Limerick ..... 2,600

## ALMSHOUSES, DORCHESTER.

For repairs, &c., to the Widows' Almshouses, at Dorchester. Co. Donegal. Mr. F. Lench, architect, London-derry. Oliphant and Campbell ..... £25 10 A. M. Naught ..... £250 1 10  
Bown and Gregory ..... 250 10 W. Adams (accepted) ..... 220 0 0  
Hutchinson and Hudson ..... 267 0 0

For shops, dwelling-houses, and warehouse in Paternoster-row, for Messrs. Knight and Ross. Andrew Wilson, Esq., architect. Pritchard and Shotton ..... £4,754  
Emor ..... 4,987 Hill, Keddell, and Robinson ..... 4,550  
\* Accepted.

## MEETING-HOUSE, ILLINGTON.

For congregational meeting-house, Barnsbury, Illington. Mr. James Wesley Reed, architect. Waine ..... £1,490 Carter (accepted) ..... £1,390  
Hill ..... 2,450

## CHAPEL, ESTFIELD.

For additions to a chapel, Baker-street, London. Mr. J. E. Knightly, architect. Quantities supplied. Fairbairn ..... £1,212  
Cushling ..... £1,159  
Flood ..... 1,197 Williams ..... 1,000  
Clark ..... 1,190 Hardridge ..... 960  
Field and Son ..... 1,167

## FARM BUILDINGS, STUNSEL.

For alterations and additions to Place Farm, Folkington, Sussex. Mr. Robert Blesley, architect. Brierley, Mason's Work, &c.—Thompson ..... £10 10 0  
Carpenter's Work—Gmail ..... 134 12 6  
Fencing, &c.—Isard ..... 63 9 6  
Total ..... 250 12 6

## DWELLING-HOUSE, KENNINGTON.

For finishing No. 26, Gore-road, Kennington. Mr. Robert Blesley, architect. Fawcett (accepted) ..... £1,560

## TAYLOR, &amp;c., KENNINGTON.

For erecting stabling, &c., to No. 25, Gore-road, Kennington. Mr. Robert Blesley, architect. Fawcett (accepted) ..... £295

## WAREHOUSE, WAPPING.

For the erection of a warehouse and embankment at Wapping, for E. Phillips, Esq., Mr. Henry Harrison, architect. Quantities supplied by Mr. F. Warburton Smith. Piper and Wheeler ..... £8,760 Ashby and Horner ..... £8,198  
Breen and Bond ..... 1,260 Cobble ..... 8,508

## COMPETITIONS OPEN.

## CLOCK TOWER.

HASTINGS.—The Prince Consort Memorial Committee appointed to carry out the above scheme of Hastings invite architects and others to compete for the same. The sum of £10, to be paid for the design approved of by the Committee, which design will then become the property of the Committee. Particulars from Robert Rogers, town clerk, High-street, Hastings, to whom designs must be delivered before the 1st May.

## CEMETERY WORKS.

CHULTEMAN.—The Burial Board for the townships of Chultham require plans, estimates, and general specifications, for the laying out, constructing roads and footpaths, erecting buildings on, fencing in and planting, certain lands purchased by them for a cemetery, the superficial area of which is eighteen acres. The designs must include a ground-plan, showing the sites of the different buildings required, the courses of the carriage-roads and walks, the courses, site, of the drains, the division of the land into the several sections, and the subdivision of each place into plots for burial. The plan, also, should show the manner proposed for the ornamental planting of the land. Should the intention be to the designs as to the manner of construction, the nature and quantity of the earthwork required, and formation of the ground surface as proposed to be made, should be provided, and such other details and suggestions as the competitors may think necessary to illustrate and make clear their designs. Plans, elevations, and sections must be provided for two chapels, dead-house, lodge, gates, and walls at entrances, &c. Specifications must accompany the plans, describing in detail the manner of construction, the site, situation, and estimates of the several buildings, and estimates of their several costs. Plans, specifications, and estimates of the manner of laying out and planting the site, and making the roads and footpaths, and the manner of construction, the site, and cost of fencing the site, to be also provided. Plans, &c., may be either for forming and finishing the roads and footpaths, laying out and planting the site, or for fencing the site, or for the chapels and other buildings before mentioned, and the entrance-walls and gates, or the whole of the works, may be combined in the plans, &c., of any competitor; but the Board reserve the right of selection at their discretion from the plans, &c., submitted to them. A premium of forty guineas will be given for the best designs, specifications, and estimates for the whole of the works sent in before a premium for the second best designs, specifications, and estimates for the whole of the works. Should designs, &c., be selected for part of the works only, a fair arrangement as to the premium will be made by the Board. The plans, &c., submitted to become the property of the Board. The plans, &c., are to be distinguished by a mark or motto, and accompanying them a sealed envelope, bearing the same mark or motto, and containing the name and address of the designer, and the terms on which he will superintend and supply his professional services in execution of the works. Plans and particulars of the 1st day may be had of Mr. Henry Dangford, borough surveyor. The plans and other documents to be sent to G. R. Williams, clerk to the Board, Public Offices, Chultham, on or before the 27th May.

## SCHOOLS, &amp;c.

DURHAM.—Plans and elevations are wanted for [schools and teachers' residences, in conformity with the rules of the Committee of Council on Education, at Stockton-on-Tees, Durham. The boys' school to accommodate 250; the girls' school, 200; and the infants' school, 200. Three teachers' residences. Ten pounds will be given for the most approved plan. Particulars from W. F. W. Williams, Esq., Town Clerk, at Stockton-on-Tees, to whom plans, with estimates of costs, must be sent, not later than the 28th April.



## THE INTERNATIONAL EXHIBITION.

ELL has the Poet Laureate written—

"Uplift a thousand voices full and sweet,  
In this wide hall the nation's invention stored,  
And praise its meritable universal Lord,  
Who lets our more in peace the soulless meet,  
Where Science, Art and Labour have outpour'd  
Their myriad forms of plenty at our feet.

O, absent father of our Kings to be,  
Present in this hall, be here, be here,  
For this, for all, we weep our thanks to thee!

The world-compelling plan was thine,  
And, lo! the long labours' smiles  
And gladness: lo! the golden glides,  
Rich in useful and design,  
Harvest-tout and banquetry,  
Laid out in level and regular,  
Secrets of the sullen mine,  
Steel and gold, and corn and wine,  
Fairy fountains, or Fairy fire,  
Sunny tokens of the Lion,  
Of wonder, east of West and East,  
And shapes and hues of Art divine!  
All of beauty, all of use,  
That one fair planet can produce,  
Brought from under mid-star,  
Shewn from over every main,  
And mixt as life is mixt with pain,  
The works of peace with works of war.

O ye, the wise who think, the wise who reign,  
From growing commerce issue her latest chain,  
And set the fair world-winged peace-maker free,  
To happy haven under all the sky,  
And mixt the nations and the golden hours,  
Till each man find his own men's good,  
And all men work in noble brotherhood,  
Breaking their millions of unloving lowers,  
And ralling by obeying Nature's power,  
And gathering all the fruits of peace and crown'd with all his powers."

For there were, yesterday, who heard the "thousand voices" unmoved. Once again, after an interval of twelve years, England has invited the world to a friendly contest, and throws wide open the doors of the vast building wherein their several contributions have been collected. The show has been inaugurated with all the splendour which royalty can command, although, through the unavoidable absence of the Queen, the ceremony lacked that magnificence which was diffused over the former building. A sense of the nation's loss, as was foreseen, was, moreover, felt by every one present, in that he who made doings disappear like morning mists before his bright intelligence, and directed the current of our actions, slept his last sleep, and could not welcome the bidden guests, or look upon the commemoration of his work. The father of our king to be" was silent when the labours upon his great enterprise were ended, but the result has shown that, powerful as was his guiding spirit, the means which he employed for the accomplishment of his ideas were sufficiently sustaining to march unflinchingly onwards and fulfil the task they—at his instigation—had undertaken.

When the former International Exhibition was opened, it was fondly hoped that we had entered upon a new era; that the rivalry of the sword and musket was to be exchanged for that of the shuttle and the loom; that the long-murdered deadly feuds of neighbours were to be brushed away by the olive branch; that hands gripped in friendship would close no more in anger against each other; and that even the common sense of nations would teach them lessons which ruin, slaughter, and misery had failed to impress upon them. These Utopian hopes have been dissipated. We must acknowledge the fallacy of these expectations which our hopes had begotten. In the brief interval of ten years, the world has seen deep changes in thousands of human hearts, and has left its track upon the scarred face of many countries. We have ourselves passed twice through the fierce fiery ordeal, and our kinsmen over the Atlantic endure it even now with the obsequies of the Anglo-Saxon race. We must also own that for months the materials for war, in the shape of monster cannon and plated ships, have been most prominent in the minds of our scientific men, and that perhaps the most attractive trophy in the whole collection will prove to be that which is contributed by the successful manufacturer of destructive weapons. It is humiliating to us, as people calling ourselves civilised, to make this confession, but it is the sad judgment of the world we need not depress us. It is consoling to know that even in this branch of manufacture England can maintain her proud pre-eminence amongst the assembled nations, whilst it is satisfactory to reflect that there is enough of more ennobling materials gathered together to convince us that whilst with one arm we can defend the world's sanctuary, we can with the other contribute in no mean degree to the onward movement of civilisation.

The general view of the interior of the new building cannot for one instant be compared to that of its prototype. We remember with regret Ouler's Crystal Fountain, and the long stretch of perspective which the eye embraced in the former building, with its admirable colonnade surfaces and its well-arranged trophies, its graceful elms and line of individually displayed statues. The new building is short in comparison, and the enclosure of the courts limits the view. There is no connection between the bright colours of the roofs and that of the groups below. The dead green columns destroy the harmony of the internal colour, and the confused disposition of the trophies block out even the limited view of the building.

No art has been shown in placing them. Bell's Egyptian Obelisk is incongruously balanced by a Gothic Drinking Fountain. Both may be, in their respective styles, very excellent, but they have nothing in common with each other which should have justified the Commissioners in placing them, or in allowing them to be placed, in juxtaposition; and Thomas's last work is put in a side court, a side court of the Coleridge Dale Company, surpassing in size and splendour even those which were exhibited in 1851, and which now adorn the long walk of Kensington Gardens, are at the end of the south transept, hidden, or almost so, by neighbouring objects. How different from their deservedly prominent position in the Hyde-park Museum is to a view down the south-east side of the Coleridge Dale Company, the long range of 1,800 feet in the former building, we must not expect it here. Such a conglomeration of confusion as Chirapide presents when densely crowded we may have, but nothing beyond it.

A few days previous to the opening the eastern dome underwent a most charming transformation. To prevent a revelation from the theatre, a tent-like covering was put over it, which completely hid the cold nakedness of the dome. It was really a relief to look upwards with that shield between us and the much vaunted wonder, whilst the alternate pale blue and red tints of the canvas gave a subdued and refreshing tone to all beneath it. Never before was the absurdity of these huge abortions so manifest, as when a simple tent-roof temporarily introduced hid them from our sight. We hope that no feeling of false pride will induce the Commissioners again to reveal it, but that a tasteful feature unexpectedly introduced at one end of the building will be repeated at the other.

We cannot avoid the expression of our cordial congratulations to the contractors and their assistants upon the successful completion of their unintermitted labour. No more striking trophy of undaunted and untiring energy is contained in the building than that which the building itself presents, and no one hardly can appreciate it who has not watched it, as we have done, from the first moment when Messrs. Kelk and Lanes walked over the green turf which it has displaced down to the period when the Duke of Cambridge, amidst a flourish of trumpets, echoed by a salvo of artillery in Hyde-park, announced the opening of the building. Through its various successive stages, with the determination to an eighth of an inch of the relative position of each column, the course of the little engine, the swift uprising of the massive columns and girders, the adjustment of the roof principals, the watchfulness and care which riveted together those monstrous domes, the anxiety of mind and ceaseless toil of nobly labouring men, have ever had our sympathy. The contractors made a hard battle neither more of brain, nor of brawn, nor of muscle, completed it. We would ask the wondering thousands who will collect beneath those arched ribs and wide-spreading girders to remember, sometimes thankfully, that little army of working-men, with their selected officers and capable chiefs, who made a shelter for those acres of treasures which enchants them.

We have already mentioned some of the marvels of art which will be shown together in what is called the Medieval court, but Gothic art has burst the limit of that insufficient boundary. Skidmore, at the head of metal-workers, stands proudly forward in the south-east transept. There, too, is Hart, with a gorgeous display of his well-known articles. Beneath the gallery, Erny the carver, exhibits some of his best workmanship designed by Mr. Street and Mr. Bentley. Near him is a doorway, most elaborately sculptured by, if we recollect rightly, Mr. Poole—a name, we confess, unfamiliar to us, but evidently not long to remain so. Johnston Brothers show a good collection of metal work, and in the rear of it some of the "big steel" in competition to the Architectural Museum are displayed. Mr. John Bell's obelisk—without a straight line in it—hardly justifies the rumours which have been circulated about it; and Minton's matchless majolica fountain is at present incomplete, in consequence of the orchestra temporarily occupying a portion of the space allotted to it. In the north-east corner, Messrs. Colvins also exhibit some of their display of some polished metals and some in the rough, but the necessity for piling up those ugly raw blocks of timber is not so palpable as the beauty of the smaller specimens of the wood. In the nave, besides that of Mr. Bell, there is an obelisk of grey granite from Aberdeen, elaborately incised with Greek ornament and gilt. In the northern transept there are some good specimens of wall decoration by Kersey and by Hayward of Newbury street, but we have not space at present to particularise them, or to detail the beauties of the painted cabinets which line the neighbouring enclosure.

A high and lengthy easting, of unusual excellence, stands in front of the French department. The court itself is divided into rooms, and a series of galleries, and is better adapted to the display of such kind of manufacture. We noticed two recesses occupied by articles of building construction, prominent in that were specimens of imitation marble and stone, and beautifully clean castings of finials, &c. The wall decoration is also distinguished by that brilliant and harmonious colouring characteristic of the Architectural drawings in the north-eastern gallery, we find ourselves in the midst of the best works which have within the last few years adorned our several exhibitions. It is a real pleasure to find that our great architects—if they have not sent their works to have a better place, have at least their old ones. Even the President of the Institute contributes a drawing, and Professor Donaldson two or three. Mr. Scott sends the fine drawings of the Foreign-office, with Mr. Thomas Allom's easily recognised touch upon them. In fact, it is curious to notice how many drawings appear here displayed by his dexterous hand. "The Design for a City," by Mr. Kendall, which was



honourably noticed at Paris, is one of these; and it is not too much to say that, to the able artistic treatment it has received, it is indebted for a greater portion of its merit. Another scarcely less able colourist brings out, with his marvellous pencil, the beauties of Messrs. Digby and T. H. Wyatt's military chapel, and a record of the designs of Mr. Ferrey, Mr. Seear's, and some other drawings, bearing the names of different architects. Would it have been too great a sacrifice to have "rendered into Cæsar the things which are Cæsar's," and to have acknowledged, in an exhibition of this kind, the names of the artists who have helped the architect to a proud distinction?

Amongst the most prominent drawings is a design for the restoration of the Tomb of Mausolus. It comes boldly from the hand of Mr. Fergusson, who has, as our readers are aware, criticised somewhat severely Mr. Newton's, or rather Mr. Pullan's restoration; a comparison of this drawing with Mr. Fergusson's other contributions shows very plainly that his "reluctant," in preparation of being mentioned, and of having his services publicly acknowledged.

Of designs for the Government offices there are many, as also there are of the Manchester Assize Courts. Professor Kerr shows by his work that his recent appointment was a worthy tribute to the talent of an able man. Mr. Newton has a large drawing, in which we admire alike his skilful delineation and his powerful conception. His drawings for years past have been distinguished by the same large grasp of subject and the like vigorous representation of it. Several designs for the embankment of the Thames caught our eye, but, above all, did that well-known one by Mr. Thomas Allen, which is now nearly three years since adorned the walls of the Academy. Mr. Arthur Allen lays one more before us his best work, the design for the interior of a public bath—together with his Royal Academy gold medal drawing. The indefatigable Mr. Hayward shows us a Gothic adornment of the Thames banks, but, clever as it is, it does not reach the grandeur of Mr. Allen's design.

We were glad to find here that the custodians of Sir C. Barry's drawings have given foreigners an opportunity of examining the productions of, perhaps, the greatest of modern architects. He is represented not only by his designs but by his early studies; the same remark applies to the drawings of Mr. Digby Wyatt. Sir Chas. Barry's sons maintain, in a great degree, their father's high reputation. The drawing of the Galleries shows Mr. E. M. Barry's most picturesque work, whilst the designs of Banks and Barry remind us of the father's power in Italian design. Mr. White, who has of late been too frequently absent from our architectural exhibitions, appears once more to delight us with his familiar handling of mediæval forms; and Mr. Street, as usual, has his unequalled pen-and-ink sketches set like gems in the coloured works of his brother architects. Our space will not permit us now to do more than record the impressions of a hurried visit to the two galleries; but we can say, without fear of contradiction, that a finer collection of architectural designs and drawings we, perhaps, never before came across, whether by English architects. Our foremost men seem really to have awakened from their long sleep to own their calling, and to vindicate their reputations. We miss only him—"the bravest of them all"—the old man who, eloquent, with the enthusiasm of youth, can speak of the occupation of his manhood; who, if he has not sensibly embodied his architectural ideas in brick and stone, has never, by a line or moulding, disgraced a building, but has made it to structures that he has reared monuments of his cultivated genius to guide the architectural student in his forward course, and to stimulate his exertions. It is a drawback on the attractive features of the Architectural gallery that it contains nothing from the hand of the accomplished and esteemed Professor Cockrell.

#### ST. GEORGE'S CHURCH, BENEDEN, KENT.

WE are asked to add to our notice of the works at this church that the restorations have been carried out from the designs of Mr. D. Brandon. The nave piers and arches, and the nave roof, formerly of Classical design, are now replaced by Gothic work of fifteenth century character, in accordance with the style of the architecture of the windows and the chancel. The chancel is divided from the chancel aisles by clustered columns, and covered with a new boarded roof, formed into panels and decorated with coloured ornament. There is also a new handsome open roof, of the perpendicular period, over the nave. The east window is filled with stained glass by Mr. Wales, and below it, and round the communion walls, a reredos has been painted, harmonising with it in colour. Oak benches are provided in the chancel for the chorists. The aisles and clerestory are paved with Milton's tiles. The character of the old church has been preserved as much as possible, but on the south side of the church it was found necessary to rebuild three of the bays, the original tracery of the windows having almost entirely disappeared. The original repairs were of the architecture of the fifteenth century, and Bath stone has been used in the interior of the church.

The east window is erected to the memory of the parents of Mr. Gathorne Hardy, at whose cost the whole of the works have been carried out by Messrs. J. and C. T. Assen.

**SOCIETY FOR THE ENCOURAGEMENT OF THE FINE ARTS.**—On Wednesday last week the third convocation of this Society took place at the Galleries of the Society of Artists, Pall Mall. The rooms were crowded. The music comprised a selection from the works of Mozart. The grand quintet with wind instruments, a composition so rarely heard, was admirably played by Mr. Alfred Gilbert, Messrs. Smith, Pollard, Noble, and Standen. The vocalists were, Mademoiselle, Madame Gilbert, Mademoiselle Cole, Madame Elwood Andra, Mr. Gaynor, Mr. Richard Seymour, Signor Ciampi and Henri Forbes. Mr. Alfred Gilbert, in conjunction with M. Benedict, undertakes the musical arrangements of the society.

#### THE METAL-WORK CHOIR-SCREEN AND CORONA FOR HEREFORD CATHEDRAL.

AMONGST the most interesting, and also the most instructive, works that appear in the Great Exhibition, the place of honour must be assigned to those which, while they are distinguished by merit of the highest order, are strictly typical in their character—true examples of what may be syntactically achieved by either art or nature, and of a definite purpose, and neither mere experiments nor exceptional illustrations of clever eccentricity and ingenious caprice.

The metal-work choir-screen for Hereford Cathedral, that stands a little to the south of the eastern dome, is pre-eminently a typical work, and it may claim to be regarded as one of the most valuable exponents of the true condition of decorative architectural short-comings of the present age, being done in this country in the highest department of metal-work; and it shows this without any direct reference to the Great Exhibition. It was not produced for the Great Exhibition, or with a view to being exhibited there; and it now appears at South Kensington simply because, having been intended for Hereford Cathedral, it is to be exhibited by its own class of production. This screen was designed and executed for Hereford Cathedral, and in that noble edifice it is eventually to take its proper place. We are particular in directing attention to the circumstances under which this screen was produced, because we consider it to be most important to distinguish, in a Great Exhibition, between those works which have not been, and those which have been, made expressly for the purpose of being exhibited.

At the present time the capabilities of metal-work, or rather our own capabilities for dealing with the hard metals and for executing metal-work, are subjects both of general interest and supreme importance. In 1851, iron architecture was exemplified by the first Great Exhibition itself, and was a bold step in advance of the time. Now, the mine has in a measure superseded the forest, and it aspires to rival the quarry. We are sedulously arming our ships of war with massive iron; and with iron still more massive we are preparing to render our land fortresses absolutely invulnerable. And, at the same time, notwithstanding the deplorable architectural short-comings of the present age, a Great Exhibition building, during the last few years an architecture proper, also of iron, has been gradually growing up amongst us, and it continually demonstrates, with fresh success, both the worthiness of its character and the versatility of its resources.

The growth of this iron architecture has very lately received a powerful impulse from the restoration of the two cathedrals of Lichfield and Hereford, that have been effected under the direction of Mr. G. G. Scott, R.A. In each cathedral a new choir-screen formed a part of the designs to be provided by the architect of the restorations, and both of these screens have been executed, from Mr. Scott's designs, by Mr. Skidmore, of Coventry, in metal-work, the metal employed being iron, brass, and bronze or copper. The whole is hand-wrought, and the processes employed are, for the most part, those that were introduced and applied with such grand success by the architectural metal-workers of the middle ages. The Lichfield choir-screen was fixed last year beneath the choir-arch of the cathedral, and estimated to be appointed for the present Great Exhibition. This reputation of the Lichfield screen determined the Dean and Chapter of Hereford to confirm the suggestion of their architect, that their new choir-screen should also be produced in metal-work, and produced by Mr. Skidmore. This second screen, being thus the latest of architectural work of importance in metal, was first conceived by the Hereford authorities for a temporary sojourn at the Great Exhibition, before it should be permanently established in their cathedral. Visitors to the Exhibition who may study this fine work will see it to great advantage, from the circumstance that, being a true screen, it is not attempting, in the Great Exhibition, to do screen duty. At its two extremities, and about its sides, nothing is done but to support the screen; it neither shuts off one part of a building from another nor serves to connect together two different parts of the same building; and it has no association or sympathy whatever either with the edifice in which it stands or with its own multitudinous surroundings. It can well afford, however, to be desired, and estimated to be appointed for the present Great Exhibition, in that it is regarded as a choir-screen which is designed to stretch across, and to be covered by, the choir-arch of an English Gothic cathedral.

The composition is carefully adjusted as well to the office to be discharged by the screen in its screen capacity as to the natural qualities and capabilities of metal-work. It consists of an arch of five great arches, the central arch being a large arch, the two side arches being exquisitely crocketed with bunches of flowers and foliage, and each arch of the entire group being divided into two sub-arches. The shafts of the first order are clustered, but the slender shafts of the sub-arches are single. The principal constructive members are of iron, and very many of the minor details and of the decorative accessories are also executed in the same metal. The screen itself, indeed, may be entitled a grand example of iron filigree, so large is the proportion of the iron to the brass and copper, and so exquisitely delicate the treatment of this invaluable metal. The iron is variously painted, the colours having all been obtained from iron of the same itself, and the decorative accessories are painted in the same way. It may be said to have painted this ironwork in the hues which she has provided for man's use through her chemical action upon iron. This colouring is at once consistent and agreeable, and it both harmonises and contrasts well with the burnished brass and the copper, to which important parts of the work have been assigned, and with the vitreous mosaics that sparkle

about the arch heads in such rich profusion. The capitals of all the shafts, the corbels which support the statues, the cornice, and the inner feathering of the central canopy, with various other details, are of copper, which retains its natural rich colour. In the execution of these beautiful models, Mr. Skidmore has put forth his full strength. They are triumphs of metal-architecture of the highest order. Wrought by the hand from the sheet copper, and executed with the point of the chisel after the method of the early metal-workers, these capitals demand especial attention and thoughtful study. They will be found to combine natural forms with architectural conventions, the former retaining all their native grace and beauty, and the others adapting themselves with most felicitous propriety to the conditions of metal-architecture; the passion flower is repeatedly introduced, and its preloquies in the composition of the central capital, and of the corbel which rises above it to support the figure of the Saviour, who is represented as in the act of Benediction. This fine figure stands in front of a large pointed vase-shaped panel, which is cusped and enriched with elaborate splendour. Above this panel is a circle, and higher still the point of the canopy rises into a cross, distinguished at once by the simple dignity of its form and the richness of its adornment.

On either side of the main central arch, corbelled out from the capitals of the arch shafts, is a group of two figures of winged angels, as in the act of adoration; and, on either side, in similar positions, two other figures of angels playing on instruments of music flank the entire composition. The lateral arches, with their sub-arches, are elaborately cusped with floral work, and the principal arch-heads enclose rich, open, quatrefoil panels. The shafts of these arches are of great beauty, and the entire being overlaid with open-work traceries. The lower portion of the entire screen is grille-work of iron, of extraordinary richness; and, above the spandrels, are filled in with corresponding filigree of iron. Then there is the frieze of brass and mosaic, the cornice of copper conventionalised foliage, and the parapet of brass filigree of great beauty and most original design. At present there is no creasing that rises above the ridge of the sloping tile-work, and it appears desirable, even should any creating eventually be added, that it should rise only to a very slight elevation above the ridge.

One remarkable feature in the decoration of this fine work of art remains to be noticed. This is, the free use of a lustrous vitreous mosaic, which has been skillfully assembled in broad masses with corresponding surfaces of burnished and jewelled brass. The effect thus obtained is brilliant in the highest degree, and the mosaic itself will be borne in mind, will be subdued when the screen is placed in its proper position beneath the choir-arch of Hereford. Then the whole of the colour, whether of these mosaics, of the brass and the copper, or of the painted and partially gilt iron, will be toned down and blended together in a manner that can scarcely be imagined until the spectacle itself has been before the gaze and the incongruities of the Great Exhibition direct to the choir of Westminster, or, better still, were to hasten direct to Lichfield, that there he might contemplate the companion screen in its own becoming place, or were to go to Hereford itself, and on the spot form his ideas of what will be the effect of its screen when it shall have been established in that cathedral.

Grouped with the screen in the Great Exhibition, as eventually they will be in Hereford Cathedral, is a magnificent gas corona, executed entirely in that ironwork which we have already designated filigree. This corona is conical in its general contour, and is composed of three tiers of arches, diverging from the centre to the circumference, and covered with elaborate traceries. Seven bold standards for the gas radiate from the shaft, or pipe, which descends and forms the centre of the entire work. These standards rise beyond the extreme circumference of the conical outline, at right angles to the radiating pipes that support them, and thus they impart to the composition a most striking boldness, and convey the idea of strength and energy, through their contrast with the arches, and with the curved and flowing lines and the spirals. Each standard has a triple cluster of jets; and, in addition to these, the lower circle of the corona itself is studded with triple jets. The brilliancy of the gas, when it is lighted, will be greatly enhanced by the numerous pieces of crystal, which are set in every direction about the jets themselves, and which sparkle so effectively amongst Mr. Skidmore's iron foliage. In the Great Exhibition the corona is suspended a little to the north of the screen—that is, rather nearer to the eastern dome. With these two noble objects will be associated four standards of corresponding style and workmanship, specially destined to find their places in the cathedral churches of Hereford, Norwich, Lichfield, and Calcutta.

It has been found impossible to complete the Hereford screen in anticipation of the opening of the Exhibition, notwithstanding the strenuous efforts that have been made, under the personal direction of Mr. Skidmore. When it is stated that the order for the production of this screen was not given until after the completion of the entire work, it becomes a subject for astonishment that the work appears as perfect as we see it. By far the greatest and most important piece of metal-work that has been produced in our times, and without a superior amongst the noblest and grandest works of the artists in metal of the middle ages, the Hereford screen is worthy to be placed in the number of the most precious and the least truly architectural, screen of Lichfield. These two works have introduced to us a new era in metal-architecture; and, as they themselves stand boldly in the front of the architectural achievements of our day, so they give promise of still greater things to come, when the principle of a new style of architecture shall have been recognised and thoroughly established amongst us.

#### ALLIANCE OF ARCHITECTURAL SOCIETIES.

ABOUT this time last year a spirited scheme, started by the Northern Architectural Association, was on foot, having for its object an alliance between all the architectural societies of Great Britain. This step had been proposed early in the year, and a sort of congress of delegates was convened, which was to have taken place in London last summer; but which, we believe, was never held. In fact, the scheme, so far as its immediate realisation was concerned, "fell through," and has remained in abeyance ever since. There can be little doubt, notwithstanding this apparent failure, that such an alliance would be very useful; and, as the approach of the year 1863 will afford peculiar facilities for making the arrangements, it appears to us desirable to re-open the question.

It will not be necessary that we should endeavour to account for the non-completion of the alliance last year, nor have we all the materials for doing so before us. It is enough to note that substantial progress was made, since a very satisfactory outline of a scheme was drawn up and circulated. This year the preliminary work will be found more to be completed, as far larger number of provincial architects will visit London in the course of this summer than have occasion to do so in ordinary years, the difficulty about a meeting of deputies will be less than it was in the last, or than it will be in any future year, supposing London to be the place of meeting.

The existence of independent architectural societies is very advantageous to the progress of the art and to those who practise it, and there cannot well be too many of them. The establishment of a means of frequent communication between them will be now the less a benefit, for if the views of an individual society, or a member of such a society, are enlightened and valuable, the more extensive the circulation given to them the more good they will effect. If, on the other hand, any error is introduced into society, or any subject it is far more likely that such error will be detected when submitted to extensive scrutiny, than when kept within the narrower limits of a single society or association.

The professional press no doubt affords, to an extent hardly, perhaps, sufficiently appreciated, the most extensive opportunities for general interchange of ideas. Few papers of importance are read before the architectural societies, which report, more or less fully, do not, and a place in our columns; and few subjects of general interest arise which do not either appear in our correspondence or furnish the themes of our articles; and yet, partly, perhaps, from this very circumstance, are in a position to know well that many communications, of a nature which either do no or cannot be published, are placed in the columns of many newspapers, and are addressed by various architectural societies to one another. There is a certain confidential feeling most properly existing between the members of any honourable profession, which might give occasion to much confidential intercourse, but as no communication made to or through a public medium can be called confidential, and as many matters of importance, to which this feeling would give rise were a proper channel opened, are of necessity now withheld altogether.

The ordinary run of papers, such as are usually read before provincial or metropolitan societies, will, it is true, be always suitably dispersed by the press, so far as their merit is enough to secure publicity for them. It would be, however, most desirable to be able to circulate among members of the profession questions upon the numerous points of what is generally called "professional practice," about which uncertainty prevails, or which custom, law, or circumstances have settled differently in different localities; nor would it be less useful to have a means of distributing information about local building materials, trade customs, methods of measurement, the prices of labour and materials. The internal policy, so to speak, of the profession—a matter often affecting individual interests to such an extent as to render it a most delicate and confidential subject—is subject to, or is in need of, occasional changes and variations, such as demand the attention of all interested, and require a mutual satisfaction. The subject of committees about which we have already written, and but there are many other subjects which are only less pressing than competition, which demand from architects first calm consideration, and then united action.

Such an alliance ought not to erect itself into a new society. It ought to embrace, if possible, all existing societies, for the purposes of a mutual interchange of information, and printed transactions, and of conference on important subjects; but doing this, it ought to leave the societies independent, very much as they existed before its formation. The affiliation of all societies to a central head is impossible, and we believe, fortunately so, for such a union would be the means of introducing a system of control, and of the inflexible rigidity of which has so often and so justly been a matter of complaint, there is no provision for any such arrangement. The Institute, moreover, although it includes many country members, does not so thoroughly represent the profession throughout the country as to be in a position to afford the best, even if it were, a fusion under any—even the most unexceptionable—leadership were desirable or tolerable.

It further appears important that the arrangements should be so carried out as to secure the bodies of architects composing the alliance from the undue preponderance of any one society, or any one section of society, and that the meeting be held in such places as which delegates are to be present, the fact that the meeting was held in any one locality might render the opinions of that locality predominant, inasmuch as all the local delegates could be easily present, while the distance might render the presence of delegates from the other extremity of the country impracticable. If it were so that it seemed to be desirable to have in any important matter, delegates should only form a sort of committee to draft resolutions or proposals, which could be

come the resolution, of the alliance, only after having been submitted to the societies themselves, and having received their approval.

Further, the difficulty which will, no doubt, be felt in getting together meetings of delegates, and the delay which must occur in procuring the assent of societies to any measure proposed to them by such a meeting, would seem to point out such a course as one to be reserved only for important matters, while ordinary subjects would be best dealt with by correspondence between the secretaries of the different societies and the circulation of papers.

While embracing the opportunity which an Exhibition year seems to offer for holding a Congress in London, we hope that the societies will take care as to the delegates to send. The scheme, even if it is referred back to the different societies for their adhesion or rejection after it has been provisionally agreed to by delegates, will yet depend for its completion mainly on the character of the delegates themselves; and it is not, perhaps, going too far to say that the adhesion of some of the most important societies will depend much upon the personal worth of the individuals by whom the matter is proposed to them, and under whose oversight and care it is likely to be. We write these words without hesitation, because we have no personal knowledge of the gentlemen who have already devoted time and trouble to the subject; yet, their scheme, so far as we have seen it, appears so reasonable, that there can be little doubt of their fitness for conducting the matter to completion, but then they will be adequately supported; all the societies interested ought to take a part in the scheme and each one ought to endeavour to induce its most influential and sagacious members to give their personal assistance, and to bring their influence in bear.

The greatest difficulty in forming a league—be it political, social, or professional—is commonly found when it is attempted to unite large and small, or powerful and weak communities, on one common footing. The larger and more powerful feel that they have at best but little to gain, while they may have more to lose than their neighbours, and they are accordingly disinclined to trouble themselves in the matter. This difficulty may have to be encountered in the proposed alliance, but it must be overcome; of course an alliance of the associations in one district of the country will be far so useful that it will beneficially affect the societies which go to make it up. But to gain a position for the alliance, which shall make it influential throughout England, the only plan is to gain, and above all, the adhesion of the influential societies is indispensable. To secure the cordial co-operation of the London societies, and especially of the Institute, may be a matter of difficulty or of time; but the object desired will not be attained unless the Institute, the Association, and even such societies as the Architectural Association and Exhibition, be included, and so included as to work harmoniously.

Should the Institute stand aside, we do not say that the promoters of the alliance should at that account abandon or postpone their scheme. They should still go on and show the Institute, by the results which they can obtain, how important an instrument has been created, and how desirable it would be for the body to take a share in the movement. Great changes are probably approaching, the result of examinations now about to be established—the many prizes now open for students—the possible changes in the Royal Academy—all seem to point to a greatly improved and elevated system of professional education; while in proportion as the profession advances in importance and in social position, its practice ought to become more uniform, and its feelings more and more dignified.

Unity is strength, and if the architects, connected together by a common profession and common interests, can, through the medium of associated societies, set like one man for certain important purposes, they will have a power which, as individuals, or as isolated groups, they are unable to possess. The individuals who may be called on to exert themselves, and to give up time and trouble for the promotion of this end, need not consider their exertions as so much thrown away. That which is for the public good is also for the good of the individuals who form that public, and we feel quite sure that neither architects nor other professional societies will regret to exert any time devoted to the formation of an efficient alliance, or to the working of it after it has been once formed.

#### COURTS OF JUSTICE.

At the elevening general meeting of the Law Amendment Society, held on Monday evening, at 3, Waterloo-place, Pall-mall, the Hon Mr. Headlam, Judge-Advocate, and the Hon Mr. Stirling, Recorder of London, presided. The vote of the House of Commons on the Bill for the Concentration of the Law courts, made but thought that, taking all things into consideration, and according to the usage of the House, the Bill might be brought forward again this session. This was the time to urge upon the Government to bring forward the measure. The Bill had nothing whatever to do with party politics, as it was brought forward by the society. He then referred to the inconveniences experienced by the profession owing to the present situation of the law courts and their officers, and described the advantages which the measure would confer upon the profession and the public at large. It had been said that there was no fund to carry out the measure, but he thought the Saurers' Fund could be made available for that purpose. He concluded by moving the resolution—"That this society, deeply regretting the recent vote of the House of Commons adverse to the Courts of Justice Bill, reiterates the opinion expressed by the general meeting of the 17th January, 1860, in favour of a concentration of all the law courts and all offices in a single building, and the removal of the duty of representing their representations to the Government and the Legislature in favour of this great practical improvement in the administration of the law."

The motion was agreed to unanimously.

#### THE LATE MR. JOHN THOMAS.

THE *Scotman* says, Mr. John Thomas, the eminent sculptor, died at his residence, Florentine Villa, London, on the 6th April. He was born at Chalfont, in Gloucestershire, in 1811, and died at the age of 50. His extraordinary fertility of invention, wonderful rapidity of execution, and accurate knowledge in every department of decorative and architectural sculpture, caused him to be extensively employed by almost all the leading architects in the kingdom; and his works, whether in wood, metal, stone, or marble, were all characterised by elegance and originality. He was equally at home in every style, and master of every detail, whether Roman, Italian, or Greek, and his productions are to be found in many of the principal structures in the chief towns of the kingdom.

Mr. Thomas had the honour to be extensively employed by the late Prince Consort, and executed, in a way to elicit the commendation of royalty, large bas-relief panels for the Peace and War for Buckingham Palace, as well as similar designs for Windsor Castle, Balmoral Castle, and others of the royal palaces. The model dairy at Windsor was designed and executed for Prince Albert by Mr. Thomas. The whole interior is lined with encaustic and Majolica, with characteristic figures, emblems, devices, and mottoes, executed in relief on the designs and models of Mr. Thomas. The enormous lions on the entrance pier at the Britannia Bridge, Menai Straits, each measuring nearly thirty feet in length, were executed by Mr. Thomas, and, even in their gigantic dimensions, display symmetrical proportions and marvellous conception. The large bas-relief in the station at Euston-square, as well as the pediment and figures in the front elevation of the Great Western Station, are also the production of Mr. Thomas. The sculpture of the new works at the Serpentine, as well as that at the grand entrance gateway to Buckingham Palace, are also by him; and these, and but a tithe of the innumerable productions of his extraordinary, industrious, and versatile genius. Public monuments have been erected by him in many of the chief towns in England; and in addition to this, he has executed a great number of private monuments, others of which may be named Somerset, the seat of his early patron and friend, Sir Morton Peto.

In Glasgow we are to see a few of the works of Mr. Thomas. The sculptures on the front of the National Bank and in the new building of the Caledonian Bank are specimens of his skill. Another work of his there, the beautiful mausoleum of the Howdsones family, with its figures of Faith, Hope, and Charity, is a model of purity, both in its sculpture and architecture. The late Mr. John Howdson had his mausoleum erected in the cemetery of Glasgow. Mr. Thomas. The ceilings and walls of the principal apartments were enriched and coloured from his designs; and mantelpieces and doors of Italian woods and carvings, bas-reliefs, and other works of art, were executed by him. The figures, which were placed, tables, chairs, carpets, and other things, all in union, from Mr. Thomas's designs, rendered this house altogether a perfect specimen of the unity and harmony so much desiderated in internal furnishing and decoration.

In Edinburgh we have a few specimens of his skill. The architectural sculpture on the Life Assurance buildings in Princes'-street, the group of figures in the Masonic Hall, George-street, and the quaint figures on the unique fountain at Holyrood.

While carrying on so very extensive a business as an architectural sculptor, Mr. Thomas applied himself to high-class art; and his figures of Musidora, Godiva, and others, exhibited in the Royal Academy, were received with well-merited commendation.

At the forthcoming International Exhibition will, we understand, be enriched with several specimens of Mr. Thomas's skill. Messrs. Minton are to exhibit a large Majolica fountain, designed by Mr. Thomas, in the Great Western Exhibition, is most elaborate, both in design and execution, and colossal in dimensions. But by far the most interesting production of Mr. Thomas to be exhibited is a model on a large scale of a monument to Shakespeare, the design for which, we believe, was submitted to, and approved by, the Prince Consort. The model is between twenty and thirty feet in height; the figure of Shakespeare, which is eight feet in height, is seated on a circular pedestal, encircled with figures from his works; and on each side, on ante-pedestals, are figures of Tragedy and Comedy. This design has been the dream of the talented artist for many years, and he has a sound reason for it. He has been so long and so over-taxed by his anxiety and labour in connection with this model and the many other works he had in hand. The want of a national monument to our great national bard has long felt, and it will be pleasing if this noble production, so long contemplated, should be carried to completion, and erected on a colonial scale on some prominent site.

In private life Mr. Thomas was all that could be desired. He was on the most liberal terms with all his neighbours, and was ever ready to assist in doing a good deed to gratify and worth. He was an agreeable companion, a kind friend, and a most affectionate husband and father. He leaves a widow, an only daughter, and many friends, to lament his death; while his works will carry his name far into futurity.

NEW RAILWAYS AND PUBLIC COMPANIES.—It appears from a return of the business transacted by the Committees of the Houses of Lords and Commons, that the Lords have passed thirty bills through committee, of which fourteen are for new railways, and sixteen for harbours, docks, water companies, and other public works. The Commons have passed twenty-five bills, of which thirteen are for railways and twenty-two for miscellaneous purposes. Only one railway Bill referred for consideration to the Lords has been thrown out; there have been ten thrown out by the Commons, and the following have been withdrawn:—London and Midland Junction Railway, West Hartlepool Harbour and Dock Extension, South Staffordshire and Central Wales, Dudley and Bridgnorth; London, Edgware, and Bushey; Market Drayton and Newport, Hull and West Riding Junction, Great Northern (No. 2) Bill, Elmsmore, and Great Northern (Sharncliffe) Bill. The Commons have passed thirty capital and extensions. The only bill that has yet received the Royal assent is the bill of the Great Northern, for taking additional lands at Doncaster. There is a great deal of work yet to be done by the committees of both Houses before the session closes, and it is not unlikely that a great deal of the duty of representing great number of them will pass through unopposed.

Mr. JAMES FERGUSON's new work on the Modern Styles of Architecture is announced by Mr. Murray.

## OXFORD WORKHOUSE COMPETITION.

THREE architects furnished designs for the proposed new workhouse at Oxford, and the drawings having been submitted to Mr. Aickin. That gentleman has reported thereon to the Guardians of the Poor as follows:—

**GENERAL.**—In pursuance of your request, conveyed to me by your clerk, Mr. Webb, I have the honour to report upon the designs submitted to my notice, viz., one with modifications by Mr. Fisher; another, also with alterations, by Mr. Seckham, and a third by Mr. Castle, all architects of Oxford. My first proceeding was to take the site, as the site, accompanied by your Vice-Chairman, Mr. Greenwood and the Rev. E. Fox, and if it be any satisfaction to the Guardians, I think the site exceedingly eligible; and if they prove as happy in the selection of a plan to place upon that site the ratepayers will have no reason to complain. My opinion was put in the report to disposing of a portion of the fronting. This is purely a financial question, as there can be no doubt but that a large plot of ground can be made very useful in finding employment for the able-bodied inmates, and looking at the rapidity with which building operations are carried on in the immediate neighbourhood, and the acquisition of a few acres will prove of considerable value to the City of Oxford, as affording it a necessary lung—and this rapid increase also forbids the necessity of additional workhouse accommodation at a future time—I would therefore say, retain it.

The task of educating some sort of place of any kind is no easy undertaking, but when they are for a workhouse—a building requiring such a variety of accommodation—the necessity for its being easy of supervision by one individual, and the chances should be properly separated, and that light and air should have free circulation, the difficulty becomes greater and the responsibility severe—added to which as I know by long experience what time, trouble, money, and anxiety a competition entails, my sympathies go heartily with those whose designs my duty requires me to report upon.

I commenced my examination by viewing the original general plans which in all cases placed the infirmary in the rear, the main building next, and the lodge buildings in front, all parallel with and facing the road, with a drive up the rear of the site. Mr. Seckham's amended plan of a few acres will prove of considerable value, and the entrance building at right angles with a roadway along the existing footway, known as Divinity Walk, and this arrangement has some advantages worthy of consideration.

I next ascertained if they each possessed the stipulated requirements, regardless of their suitability, and generally found them to have complied with the conditions, and then to find the area covered by each plan and its cubical contents, so as to form some idea of their relative costs. The following are the results:—

	Area covered by building in feet	Cubical contents
Mr. W. Fisher .....	31,816 .....	690,000
Mr. J. Castle .....	31,850 .....	920,000
Mr. J. L. Seckham .....	32,000 .....	860,000

Thus it will be seen that in the area covered and in the cubical contents little difference existed, and another point being ascertained, that supporting the gentleman's estimate of £7,000 to be correct, the cost per foot cube would be about 28. Not having carried out any work in Oxfordshire, I am not prepared to say whether it be done, or whether it is without experience, but the cost of the work has been, that between 38 and 44, per foot the very lowest sum for which a building of this kind can be executed.

**Mr. Castle's Design.**—Each set of plans was then examined in detail, when I found that Mr. Castle's design consisted of an entrance building, a main building of six stories, infirmary and dormitory, and a kitchen, and a main building of purpose of effect. The arrangements, however, are such that it would render a proper supervision almost impossible. It will require but a few remarks to make it clear that it would be highly necessary to adopt such a plan.

The master and matron's rooms are very inconveniently situated. There is only one ward for 55 able men, many of whom may be unruly; the lavatories are placed at the staircase entrances, which would be, in consequence, always wet and dirty; the kitchen department is inconsequent of access; the chapel cannot be reached but through the kitchen court; there is no communication from the able women's day-room to the dining-hall, but through the work-room and the yard.

Although the sleeping wards are 30 feet wide, windows are only placed on one side, and those very small; the room could not fail to be field and unhealthy. There are several other fatal defects, and it is a matter of regret that so much valuable time had been taken up in working out so inefficient a plan. The author has, however, succeeded in his endeavour to produce a pleasing and picturesque exterior.

**Mr. Seckham's Design.**—Mr. Seckham has sent in two designs. One appears to be a modification of the other, and as this latter is a manifest improvement, attention had better be directed to it. There are still several defects. The Master's rooms are too far from his work; the kitchen and sculleries have to be passed before reaching the main corridor, which has to be crossed to take the view to the dining-hall; the entrance will consequently meet unpleasantly, and would be difficult to keep clear; the ends of the corridor are blocked up with the refractory cells, which will prevent a thorough current of air passing through it; the sleeping-rooms for the epileptic are on the first floor. I think it would be better to place the cells on the ground floor, and the sleeping-rooms in large characters, considerable modification would have to be made previous to doing it.

The married rooms are too small, and one room has no window, while in plan No. 2 a fair piece of construction is made to light it. The main building is three floors in height, and although not a positive error, yet it is evident that one of two floors could be more efficiently managed.

The infirmary is also defective. The corridor is badly ventilated, and windows are placed on one side of the corridor, and the patients have to pass through one room into another, which is a very objectionable feature. There are other arrangements of a questionable character it would be needless to enumerate.

**Mr. Fisher's Design.**—Mr. Fisher's design, No. 2, although requiring alteration, is free from many of the objectionable features in the other two. There is much more system and compactness in it. The corridor is fairly lighted and well ventilated. The master's rooms, kitchen, dining-hall, and other offices are well placed, and the main building is well adapted for the purpose. The infirmary also is, by far, the best of the three, and so arranged as to be capable of

being well ventilated. I beg, therefore, to recommend his design for your adoption, with some suggestions which I have indicated in pencil on his plan No. 2, and more especially in the second story, where the dormitory is placed on the octagon centre part, and to square the rooms to give to the Master an office and sitting-room on one side, and add an officer's dining-room on the other side. I have ventured to place the probationary wards in the main building near the entrance, and the day and night nurseries to admit nurses to the dormitory; the boiler-house, stores, brew-house, &c., to be alongside the dining-hall on the male side; the work-room, laundry, drying-room, and washhouse on the female side; and the married couples to occupy the space now allotted to the washhouse and stores in a one-story building.

The chapel might be placed with advantage in the front, by which a more ready access from the kitchen department and stores to the infirmary might be enabled; and in consideration of the fall of the ground, the dining-hall would be placed as shown, as it is probable the dining hall, &c., will be on higher ground.

**Infirmary.**—The convalescent rooms might be curtailed, and a nurse's day room on one side and a dispensary on the other might with advantage be secured. A communication should be made between the corridor and the convalescent wards, and with the staircase of the fever wards, for the convenience of the surgeon and nurses.

The lodge department should have a wide entrance; porters' rooms and traps' ward on one side, a waiting-room for paupers, a staircase and relieving officer's room on the other, and the board-room (which should be approached by two staircases, one for the guardians and one for the paupers), with committee and strong room on the first.

In venturing to make the preceding suggestions I have done so in the hope that they may be considered useful to the Board—as being the fruits of some experience. I have said nothing as to the cost of the alterations suggested, and having examined the specification, and it to be efficiently drawn up and the scantlings sufficient. I would suggest, however, that either flatter roofs be adopted or that some use be made of the existing space, which is a great waste; a tank on the roof of two corners of two corners of the main building would be inserted in all the walls immediately above the ground line to prevent damp rising. The drainage had better be collected into a tank, with, however, an overflow taken to the city sewer. The water from the city had also better be used, as wells and pumping lead to convenience.

GEORGE AICKIN.

With reference to the foregoing report, Mr. Castle writes to the Guardians:—“As a model workhouse, as a workhouse, it is defective in details, and its plan is inefficient;” and it is so simply because it is cheap, and because the sum of £7,000, which you propose to expend, is also inefficient. If I may be allowed to express an opinion, I should say the most efficient which has been sent to you is one of the three of these plans, and I think it is the best of them. Once—for this reason, that all three were prepared upon the supposition that they would be undertaken, irrespective of cost.

“The general remarks made by Mr. Aickin indicate very plainly that he made a rapid examination of my plan, and never read my specification. If it had done so, his remarks upon my windows and ventilation could not have been made. Nor would he have considered as vital defects some trifling points which could be easily remedied, and which, if adopted, would have made the plan a very good one; but it is my own, and the cheapest I could design. Mr. Aickin admits that it complies with your instructions. Beyond that I can say nothing. But I must beg that you will place it with the rest of the plans and specifications, and that you will send them to the Board, where the plan will be placed, and an opportunity of seeing what has been submitted to you and what adjustment has been made. Such an order will hurt no one. I know that my errors will reach me sooner or later, and a professional censure, if it is just, may do me infinite service. So with the rest of the competitors.

Allow me to remark that at the present stage of your proceedings such an exhibition as I have suggested would be satisfactory to the competitors—for most of whom I can speak—and the general public anticipates that such a course will be adopted.

## NEW WAREHOUSE, HARTLEPOOL.

A NEW warehouse is nearly completed, for the West Hartlepool Harbour and A. Railway Company. The building is 365 feet long, and 100 feet broad. The foundation excavations are 8 feet below the level of dock coping; the piles are nearly 900, are 30 feet long, driven 6 feet below the dock coping. Concrete, 3 feet deep is laid in the trench; cross and longitudinal sleepers, 12 feet by 6 feet, are secured to the top of the piles; and, imbedded in the concrete on this foundation, Yorkshire iron columns are 5 feet 6 inches high, and 18 inches dia. On this the brickwork commences; after it has been brought to level of dock coping there is a base of ashlar stone on the outside, in four courses, making 8 feet in height, and from this commences a fire-brick facing to the full height of the building, which has a base of ashlar stone on the inside, and is 12 feet high. The columns by cross walls, except the top room, which is open throughout. The columns on the ground floor are of Dantick oak, all above are of Memel fir; the beams and joists are all Memel fir; on the top of each pillar is a cast-iron cap, so constructed as to weigh 100 lbs. and is 18 inches dia. On this the timber, is in one span. There are nine large openings on each side, 24 feet clear, with semicircular arches of ashlar stone, which, as well as the base courses, is a rock of stone dressed in the quarry, and is 12 feet high. The roof is a corbelled parapet all round the building, and eight pilasters, one at each angle and two on each side, having clean dressed ashlar caps; the two gables have stone and brick corbels and stone water table. A large semicircular window is placed on each gable.

The work was commenced in March last. Mr. Bastow is the builder.

**NEW DRINKING FOUNTAIN AT CAMBERWELL-GREEN.**—A new drinking fountain has been erected at Camberwell-green. It is the gift of Miss Caroline Edwards and the Metropolitan Free Drinking Fountain Association, and has been erected under the patronage of the Corporation. It is a fine work of four columns of serpentine marble, resting on a square solid pedestal. Under a dome four jets of water spring from the centre. The design is by Mr. Rolles, the surveyor to the association. The fountain is a fine specimen of the kind, and has opened in London, and by the 1st of July it will open eighteen more.

# ARCHITECTURE OF PALESTINE, FROM THE EARLIEST TIMES TO THE CRUSADES.\*

Permit me to offer you my heartfelt thanks for the favour you confer upon me in allowing me to present myself before you to address your honourable society. This is not the first instance of courteous hospitality which I have received since I have been in Egypt; though it is the first time I have been undertaken to read of my present subject, the Architecture of Palestine, from the earliest ages to the Crusades. I have made many investigations and gone very fully into the study, and I have great pleasure in imparting the information which I possess, and which I hope to communicate more fully in my forthcoming work, entitled "Jerusalem Explained."

The limited time allotted for this lecture compels me to restrict my observations within the briefest space possible; hence I plead guilty, in anticipation, to the charge, which I fear may be against me, of being too brief. I am, however, not desultory in my descriptions. I wish it to be understood, however, that I shall be glad to offer any information or explanation to those who will apply to me, and that I shall gratefully accept any criticisms or observations which may be made to me. It now only remains for me to solicit your indulgent attention while I address you.

M. le Comte de Vogüé, of Paris, thus writes, in the introduction to his work upon the churches of the Holy Land:—"Passing by the ancient monuments, with which I was sufficiently well acquainted, through my first visit to Jerusalem, of twenty-four days' duration, and with regard to which but little remains to be said, I have occupied myself in the search after monuments of the middle ages." This is more than I can say, after a residence of eight years in Palestine, and more particularly in Jerusalem, where I have spent the greater part of my time for investigation and study in the monuments of antiquity, while those of the middle ages are well known, greatly owing, it must be confessed, to the labours of M. de Vogüé, who has rendered too service to science, although he has fallen into the error of assuming all the antiquities of the country to be of the middle ages. I shall reply to this in due time, and will now proceed to speak of the Jewish works, both before Solomon and during his reign, and that of Herod. Thence, I shall come to Constantine, Justinian, and the Saracens, in order to reach the period of the Crusades.

## BEFORE THE REIGN OF SOLOMON.

The condition of the country of Canaan previous to the conquest of Joshua was not that of barbarism. It was certainly, to some extent, in a state of civilisation. Arts, trade, industry, and commerce were already considerably developed. We are left ignorant that the country possessed "great and highly cultivated, and honest, full of all good things" (Deut. vi. 10, 11). But how are we to investigate the remains of its edifices? how ascertain their style of architecture? Certainly it is a study not unattended with difficulty. When the chosen people entered the promised land, they found Egypt, where art, trade, and luxury flourished. In the wilderness Moses found artists of sufficient ability to construct the tabernacle. It may, therefore, be inferred that they introduced their knowledge into Palestine; but where are the monuments in proof? We read that David and Solomon employed artists of every kind, and that they employed artists and labourers to execute their magnificent works. It must be confessed that the want of monuments of this first epoch renders all research into the architecture of ancient Judaea exceedingly difficult. The people whose name it bears have not even transmitted to us any record of their art, trade, and industry.

I believe that, during the frequent excursions which I made into the country, I came across the remains of walls and arches of that date. The localities in which I discovered them, and their construction, I shall place before you, both by means of verbal description and by drawings.

**Ephraim.**—In the year 1729 before Christ, "Rachel was buried in the way to Ephraim" (Gen. xxxv. 16). Six hundred and thirty-four years afterwards Samuel said to Saul, "When thou art departed from me to-day, then thou shalt find two men by Rachel's sepulchre in the border of Benjamin at Zelah" (1 Sam. x. 2). Upon the road leading from Jerusalem to Bethlehem the monument of Jacob's wife is still to be seen. To the east of this monument, at a distance of 400 feet, a very ancient wall was found. This I believe to have been that of Zelah; the wall appears to be of Palestinian construction. It is composed of large blocks of stone, measuring from 3 to 8 cubic feet each. The stones are of the greatest solidity at the base, and diminish in proportion as the vertical rose in height. These stones are rounded into broad, flat polygons, and united together without cement, but with some degree of precision by means of small stones, employed to fill the interstices resulting from their irregular conformation. The thickness of the walls at the foundation is 6 feet, above ground 5 feet; its present length extends to about 100 feet. Above the ground the wall rises to a height of 12 feet, and averages from 6 to 9 feet. This relic of the past has been much mutilated by Arab vandalism, and portions of it used for the formation of fences.

That a city must formerly have existed on this spot is proved by vestiges of our walls, by an aqueduct extending in the rock, and above which large flat polygonal flags by the fact that the foundations are covered with broken stones, with cisterns dug out of the rock, and with ruins of sepulchres, which serve as places of shelter for shepherds and their flocks. This wall, of which no author has made particular mention, is situated in the valley of the Maccabees, which I visited in Greece in 1851. I have met with no other similar construction in any other part of Palestine.

**In the Desert.**—To the south of Bethlehem, and within an hour's distance, lies the valley of Beth-el, where Jacob and his family pitched their tents. The village, now called Urtas. Upon ascending this valley for about a quarter of an hour, the traveller sees some ancient ruins, which I take to be those of Bath-Rabbim, of the Son of Solomon (vii. 4). An irregularly shaped space of ground, measuring 25,000 square feet, is surrounded by a wall 5 feet in thickness, and of unequal breadth, varying from 12 to 24 feet; on the east it runs up to the mountain; to the west it faces the torrent. On the latter side is a gate, 8 feet wide and 10 high, with jambs formed of several stones, supporting a round-headed arch, which is the only well-constructed part of the wall. The wall is built of stones worked in rustication. The entire wall is built of masses of rock, roughly squared, in combination with others of polygonal shape, but all more or less showing traces of rustication. The size of the stones in general is from two to four cubic feet. The space left in the wall are filled up with small stones, and

the cement, which is not observable in the exterior, is plainly perceptible in some parts of the interior of the wall. An examination of the cement convinced me that it was applied subsequently to the original construction. With the exception of the small square door, which is in such a manner as to form different apartments, but no internal construction remains. I, however, collected a number of small cubes of stone, which may be found in a small portion of the ground; they measure three or four lines each in surface, and are formed of a soft, porous material. The gate is enclosed by a strong Arab wall. I endeavoured to get it opened, but the Arabs, who foolishly pretend to call themselves the owners of the place, forbade my entrance. Nevertheless, I succeeded, without the aid of business, in forming an aperture scarcely larger than the small square door, and I discovered that the rock, rough as it is, is not the rock, and that from it were two openings leading into other chambers. The walls bear the impress of the ages which they have seen pass away, but they are still firmly rooted in their original spot. The wall is enclosed by a strong Arab wall. Herod's buildings in that locality, it might be thought by some that these were of his construction; but this is not the case. Such do exist, so that it is easy to compare them and observe that the one are much more ancient than the other.

**The Sepulchre Valley of the Jews at Jerusalem.**—In close proximity with the sepulchres of the Jews, on the north, lies a valley, which must be traversed to reach Nely Samul, the ancient Ramah, the dwelling-place of the prophet Samuel. A short distance from the valley eastward are found portions of a wall composed of large rectangular stones roughly put together with mud, mortar, or iron. Among them exists a doorway 6 feet wide and 12 feet high, the side posts of which are each composed of a single stone, and support a monolith architrave 3 feet high, resting upon them without cement. It bears a resemblance to a very ancient scale, and is very similar to the doorway at Mycenæ. Of such a construction no trace is found after the period of Solomon. Throughout the whole of Palestine, nothing is to be seen so ancient as those I just described, and which I believe to be anterior to Solomon.

The wall terminates in a low, irregular wall, composed of stones, hewn out of the rock to serve for receptacles for the dead, as at Hebron; monuments erected over graves, like those of Rachel at Ephraim and Joseph at Sichem, formed of simple stones and without inscription; massaulas, like that of Abimelech at Jerusalem, the low entrance to a tomb, and the entrance to a tomb, and, finally, the vast reservoirs as on the way to Hebron. To all these works, perseverance and strength to overcome the resistance of the stone are plainly apparent, but the taste and genius of art are totally wanting.

On the south of the Sepulchre Valley of the Jews, I have already described the construction of the sepulchre of Samuel in Ramah, which I have minutely examined. In ancient Ramah, now a village, called in Arabic Nely Samul, exists a mosque which was formerly a church built by the Crusaders. The walls of the mosque correspond to the construction of the wall of the Sepulchre Valley, formed of enormous blocks of stone, which, though defaced, still show traces of careful and elaborate rustication. On the south-west side of this building stands another of the same period. This contains, or rather covers, the rock in which the sepulchre of David is situated. I entered the chamber, the centre of me by the Derrish in charge, I entered a chamber out in the rock; in the centre of this chamber is an enormous sarcophagus, which I recognise at a glance as a specimen of Moslem architecture, and which is the same that is exhibited with so much pomp and circumstance through the streets of Jerusalem. The thickness of the rock, to persons not permitted to set foot upon the rock overlying the tomb of the prophet, but who are obliged to be content with remaining in the upper room, where there is another sarcophagus of wood. This sight did not, however, satisfy the curiosity of the people, and they endeavoured to break through the diameter, running through the rock and communicating with a lower chamber, which was utterly dark. Besides that, I saw a passage raised off with iron bars, and inferred, from the rusty state of the gate, that the Derrish himself never ventured to visit the old prophet, whom the Mussulmans declare to be still alive. All my endeavours to induce my guide to open this gate were fruitless. Though he persisted in seeking to compel me to retire, I accomplished my investigations as well as I could without him. By means of lighted paper thrown down the hole to which I have alluded, I discovered the existence, in the centre of the cavern, of a sarcophagus of whitish stone, of rectangular form at its base, surmounted by a triangular prism, without ornament or inscription. The walls of the sepulchral chamber were smooth, like those of the one in which I was. The sarcophagus was of a similar construction, and was covered with a mosaic of small cubes of stone, and which acted with a rotatory motion. I made the same observation from the horizontal grating, and perceived that the steps were cut in the rock itself. It is under the sarcophagus that the tomb, cut vertically in the rock, is situated. In my investigations, I have not been able to ascertain, rather by the humanity of the place itself. Had it not been for this, the lighted paper which I employed would have ignited the petitions addressed to the prophet, and I should have been subjected to the wrath, not only of the custodians, but of the whole of the people.

## FROM THE PERIOD OF SOLOMON TO HEROD.

During the times of David and Solomon, luxury increased among the Jews. The arts and industry greatly improved under the influence of Phœnician artists and craftsmen, who came to Judæa in large numbers, and effected a great improvement in the arts and industry of their country. The arts and industry were much improved by David, who has no indications or trace remaining. No doubt can be entertained that he furnished the means and planned the localities, and that his ideas were carried into execution by Solomon. The latter was not occupied, like his father, in fighting against the enemies and foes of his country, and, therefore, was at liberty to devote his wisdom and energy to the augmentation of the splendour of his kingdom, by the erection of stupendous buildings, by commercial enterprises, and by the encouragement of luxury, little in keeping with the simplicity of the countenance of his father. What remains of his works? The Scriptures inform us that Nebuchadnezzar converted them into a heap of ruins by fire, employed men to raze the walls and fortifications, and carried the people into captivity. In the reign of Cyrus, 52 years afterwards; in 500 years, the Persian King, the exiles returned to their native land, rebuilt Jerusalem, and the temple of the Lord, which did not equal the first in splendour, in consequence of which Herod substituted for it one far grander. The whole of the long period which elapsed between Solomon and Herod is utterly unproductive of such remains as we have to-day. It is certainly not a building, perhaps, even a capital, of the time. Of the latter, however, I speak doubtfully. The capital of the monolith found under the mosque of Akas is at present the subject of serious study and investigation, with a view

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to assigning it to the Solomon or Herodian epoch. In Jerusalem and Palestine in general we have only blocks of worked stone, walls, reservoirs, and aqueducts of the period in question to discuss; and of these I will now proceed to speak.

The existing walls of Jerusalem, especially on the east, mark the various epochs at which they were built. At their base I recognise the work of Solomon's period; higher up, some portions of the walls as rebuilt after the captivity. Other parts show the work of the workmanship of the Herodian age, when Roman and Samaritan work is not true. The character of the masonry is well illustrated by Flavius Josephus (Book XV., chap. xxi.), I recognised, on examining the stones forming the foundation of the actual walls of Jerusalem. On the east, on which side the walls are deep excavations, in order to render my object the fact, large stones composing the foundations vary in length, and are squared with some degree of exactitude. They have a smooth edge round the rustication about 23 inches wide. The rustication itself projects about 3 inches. The stones are set together by means of a cement cut in the form of a V, and are held by clamps of lead and iron, but no sort of cement is apparent. Above the foundation, stones are seen in relief; hence those portions of the wall in which the courses of vertical and horizontal stones are uniform and well joined I call Solomon, but where the construction is irregular, and the external surface of the stones shows the mortises for the timber or for the clamp, I assign them to the epoch subsequent to the captivity. At that period the walls were rebuilt in the greatest haste, to resist the attacks of an enemy who might appear at any moment, so we find the Book of Nehemiah; hence the inequality in their construction, and the laying of the stones face downwards.

The rustication, then, I attribute to Solomon, who undoubtedly employed it in a rough state in the foundations, as is clearly apparent, and also in the building of the towers, and more finely executed in the construction of the rest of the wall and its enclosure. The reason why the rustication is not seen in the same time as to be seen, may be found in the devastations of fire, vandalism, successive repairs, and the new conformation given to the stones during the work of Herod and Justinian. I shall presently point out, and show that Herod himself employed rustication in some parts of his fortifications.

Speaking of the working of the stones of which the temple was built, Josephus remarks that they were polished and joined together in such a way that it was impossible to discover the joints. Of this no vestige remains in Jerusalem; time, fire, and man have never spared the stones, and we are compelled to turn elsewhere for other relics which evidence science and genius.

**Solomon's Reservoirs in Etham.**—To the south of Bethlehem, and at an hour's distance from it, upon the west side of the road which leads to Hebron, stands a ruined medieval castle. This remains as if it stood several centuries. These large reservoirs, which are not only, without doubt, the grandest work existing in Palestine, but are also, undeniably, of high antiquity, and may safely be assigned to the Solomonian era, in accordance with tradition. It is remarkable that neither the *Itinerarium* of Josephus nor the *Itinerarium* of the Crusades, in his *Antiquities* (Book VII., c. vii. 3) mentions a city called Etham, where was erected the present place of Solomon, of which the *Itinerarium* gives a description. It is, probably, this palace which is referred to in Ecclesiastes 1, 4, 5, 6. Of the most ancient ground, nothing but some land under excellent cultivation is left by Mr. Menzies. This spot, which is situated to the east of the reservoirs, and in the northern continuation of the valley, retains the name of the Enclosed Garden (Gen. 11, 12), in honor of Solomon. At various times, among others in 1861, Menzies, in digging the soil for cultivation, has met with the remains of ancient walls, reservoirs, and aqueducts cut in the rock.

The three great basins are situated in the Valley of Etham, which runs down from east to west by a very steep slope. They are cut by the main stream that flows down from the two sides of the mountain, and from a brook situated to the west of the castle, in a direct line to its northern side, at a distance of about 420 feet. I state this because the entrance to the fountain, which is circular in form, is hidden by tradition, and difficult to find. Solomon probably allied to this very fountain in his Song (11, 12), and it is still called the Sealed Fountain. All the three reservoirs are cut out of the solid rock. In some parts they still retain a cement so hard that twenty-nine centuries have been unable to exercise any destructive force upon it, and it is perfectly true that it must be the object of the construction of these reservoirs was the supply of Jerusalem with water, as Mount Moriah is at the present time supplied, in consequence of restorations directed by myself. It is a subject of great regret that the repairs which have been made since the discovery of the ruins, and the work of the masons, and because the shepherds, fellahs—or peasants—and Bedouins, continually destroy portions of the conduit in order to procure the water for their own private wants, and it is difficult in an Arab country to maintain a proper watch over a circuitous line of about 15 miles. Had some good men been employed to guard the conduit, to fulfil the duties which they undertake, they are easily lured to slumber under the influence of the good Bakdashah.

The first reservoir to the west is 369 feet long, its average breadth is 225 feet, and its average depth 30 feet. The second, distant about 158 feet from the first, is 432 feet long, its width 200 feet, and its average depth 26 feet. The third, distant about 186 feet in the last, 477 feet long, 213 feet in average width, and in average depth 38 feet. All three unitedly occupy a square superficies of 179,541 feet, and 156,000 cubic feet of the rock from which they are formed. What conqueror could have effected this, and from great numbers of them, and what king could have the glory of having effected it is due alone to Solomon's genius. But it is not only in the construction of these water receptacles that hydraulic knowledge and science are apparent; more especially are they displayed in the vast ramifications of the conduits, which are cut from great heights, and in the various aqueducts; in the formation of various water-towers; in the contrivance for filtration; in the manner in which the water is introduced, without the least waste; in the mode of its conveyance through the conduits to Jerusalem. I am sorry to be prevented by the want of space from giving full details, but I must not pass over the principal without more special mention. The others may be learned from a paper which it is my intention to print before long.

Let us return to the Sealed Fountain. Enter it by the opening, and descend a sufficiently inconvenient passage for about 14 feet. At the extremity we come to a rectangular chamber, 18 feet long, 10 feet wide, and 20 feet high, whose walls are formed of large Solomonian stones. At the top they are rusticated, and on the upper surface of the wall is a row of large keystone stones. No cement is used in the construction. In the middle of the western wall is another

aperture, which leads to a small cavern, where a stream issues out of the rock. At the western corners are two other openings, in which springs are seen dripping from the rock. These three fountains deliver themselves into the rectangular chamber, in the middle of which is a reservoir to receive them. In this basin they are filtered previously to reaching the reservoir, which is situated at the eastern wall. The conduit is cut in the rock for a great distance, but the upper part, as it approaches the old castle, is covered with large flat slabs, which are 5 feet wide and 4 feet high. The waters of this conduit fall a distance of 20 feet at the north-west corner of the upper reservoir, which is situated in a basin. From thence one part of the water is turned into the first pool, while another portion is conveyed by the aqueduct—which runs parallel with the reservoirs—to the point at which the waters of the reservoirs enter the water-tower, whence they are filtered, by the conduit, into Jerusalem. When the reservoirs are so full that they can receive no more water, to avoid waste the water is received in the basin near the castle, where there is a third aperture leading into a subterranean chamber. Here it mingles with the other water from the main stream, and the water is then conveyed by the conduit cut in the rock to supply the water tower, from whence the conduit for Jerusalem runs. From the same point proceeds another conduit, which passes at a distance of 660 feet from the third reservoir. This, in case of great abundance of water, could be directed to the valley for irrigation. The whole system of aqueducts has been used to be of use, because the streams are not abundant; indeed, alone they would be quite inadequate to feed such vast receptacles, as we find in the Book of Nehemiah; it was only once in 1860—that I saw the three reservoirs full. At other times it is the second only that has water, and not always that. The whole length of the conduit running to Jerusalem is covered with large stones. In some parts it is constructed of masonry, in others, formed of the rock cut in the shape of a V, and in some parts of the masonry, of which I believe it to have been entirely formed originally. I must be obliged to excuse on the ground of want of time, if I enter into no further details in connection with this interesting topic.

**Mosaic of Herod at Hebron.**—In Hebron, as every one is aware, is the cave of Maephelah, purchased by Abraham, and appropriated by him as a sepulchre for himself and his descendants. This cave is surrounded by a wall of the highest antiquity; but the precise date of its origin has not been stated by any writer, and I have no hesitation in following the Arab chronicles of the sixth and seventh centuries, as well as the tradition of the country, and declaring it to be of the Solomonian, and not of the Herodian, age. At the time of Josephus ("Wars of the Jews," Book IV., chap. 11), the monuments of the patriarchs, in Hebron, were of elegant construction, and the workmanship of the masonry had been erected by Herod, the historian would not have omitted to describe them when he speaks of other important works erected by the same sovereign, since he wrote not very long after the period, and was ever ready to magnify the monuments of the Hebrews. I have not the opportunity to describe it as Solomon's, because the fact was perfectly well known in his time; as Eusebius and Jerome, for the same reason, are silent about it when they name Abraham's sepulchre. Some have fancifully attributed it to Saint Helen; but I have no doubt that they have overlooked the assertion of Ptolemy of Boeotia, who visited Hebron in 383, and describes this surrounding wall as constructed of stones of enormous size. Antoninus the Martyr, in the sixth century, makes like mention of it, but does not say that it was the work of the Byzantine Emperor.

The north and south side of the wall are 108 feet long, their width, from east to west, is 112 feet. The height of the ancient work is 48 feet. The walls are ornamented with pilasters of the uniform width of 4 feet, except the corners, which are 8 inches from the plain surface of the wall. The work is not ornamented with capitals, but support a cornice in high relief, composed of two fillets and a cyma reversa, and were evidently added, subsequently to the formation of the wall, for the express purpose of separating the old and the new. The latter, of Arab construction, it is easy to see was built in a circular enclosure from view. The whole wall is formed of regular courses of enormous stones perfectly squared and rusticated, five lines in projection relief, and which diminish in size in proportion to their elevation; each row receding five lines from the last immediately below. The stones are massive and uniform, and measure 10 feet in length and 5 feet in height. This external form is maintained in the interior, but without the buttresses. The thickness of the walls is 7½ feet at the base, and 6½ feet above. As far as I had the opportunity of examining, two stones appear, in general, to form the thickness of the wall in some cases, a single one occupies the whole thickness. No cement is used in uniting the stones. The little which is apparent on the exterior has been placed there by the Arabs, in order to prevent the rain from entering the wall, and to prevent any one from making any other objections to my opinion. I shall be greatly obliged, and shall avail myself of them on my return to Hebron to renew my researches and studies.\*

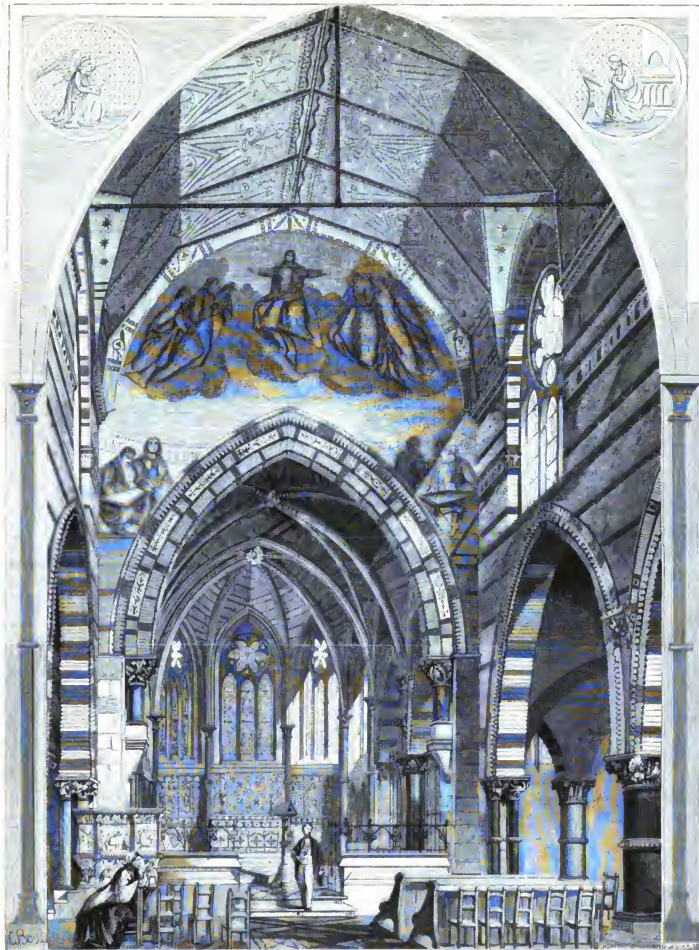
**KNAPP'S PATENT PAVEMENT, POULTRY.**—As an experiment the roadway in the Poultry is being laid with Knapp's patent pavement, which consists of hollow bricks, each 18 inches long, 12 inches wide, and 4 inches high, and level with the surface. Four of these blocks will make a square yard. On each side of the road, close to the edge of the footway, are being laid hollow cast-iron tram-plates, six feet in length and 18 inches broad, which are first fixed with concrete over, leaving a space of 1 inch between them, and are then laid, thus forming solid tramways. To keep the paving level at each end iron girders 18 feet 9 inches in length will cross the roadway. Each of the blocks are cast in the same mould so that the whole of them, it is said, will lock into each other, and during the winter will be covered with iron and concrete, and will be as strong as the work commences at the corner of Charlotte-row, Mansion-house, and extends about 100 yards westward from that point.

**PARIS BRIDGES.**—The old suspension-bridge of Louis-Philippe, Paris, is close upon the same site as the new bridge built by the island of La Cité and Saint-Louis, and which has been rebuilt in iron, has been opened to the public. The new stone bridge which joins the same island, Saint-Louis, to the left bank of the river, has also been opened, although the parapets are not yet built. During the time that the Empress was in Paris, the bridge was in the hands of the Napoleon at Bercy, the Austrius, Louis-Philippe, Arcade, Double, Notre-Dame, Petit-Pont, au Change, Saint-Michel, des Invalides, Alma, and Solferino.

\* To be continued.







INTERIOR OF THE CHURCH OF ST. JAMES THE LESS, WESTMINSTER.—MR. C. E. STODOL, ARCHITECT.

and coffins—whether there is anything symbolical in this connection with the term of life is not evident. The Glossary gives an account of lead fonts to be found at Brookland, Dorchester, Warborough, Warcham, Walsford, Charlton, Walsley, Cleve, Long Wittenham, and at Ashbury, in Derbyshire, is ornamented with leaden figures of the Apostles. Examples are likewise to be seen on the continent, as at Bourg Achard, and the leaden font in the Museum at Rouen. I once made a drawing of a font in Shelden Church, near Chichester, the interior of which was of stone set in Ashbury, in Derbyshire, carefully banded round the tracery—a painful instance of perverted ingenuity.

Among the most remarkable coffins are those found under the effigies of knights in the Temple Church.

Lead has been used for purposes of asphalting from a very early age; the older and more usual custom being to use sheet-lead and work it up into the form desired. It appears that the Romans seldom or never used solder in the construction of their coffins; for what reason I cannot say. I found a description of a Roman coffin in the *Archæologia*, which is the interior of a large, in a trench, the stone coffin lay in a trench, well packed on either side with charcoal; the inside was lined with lead, and iron bars supported the lead cover; the lead remained entire, but the iron had disappeared. But, to return to the subject of cast lead; what are the objections to its use. First, the difficulty of securing and maintaining good edges and true planes; then its expense; then its weight; and, lastly, the objection that applies to all cast work—the substitution of a mechanical process for a work of art to geometrical forms, such as the suns and stars on the *grosnettes* or roof tiles. The objection does not apply, and I should only be too glad to see a few more of them introduced.

The use of lead for eaves, gutters, and down-pipes is fast going out of date, but I do not see why we should not specify ornamental heads to be made in this material, especially in small works. That down-pipes may be treated artistically, whether in lead or cast iron, is a subject which the *Archæologia* has treated in detail, and the bank in Blackfriars-bridge-road, have each some points of originality to commend them.

Having thus come round again to a more utilitarian aspect of the subject, I will briefly refer to the important question of lead pipes and cisterns, and their liabilities to impregnate the water which passes through them with noxious matter. You may remember that a lead pipe at Tulse-herne, a quarter of a mile in length, used for the conveyance of water, had to be taken up and iron substituted. In this case the water was exceedingly pure, and the impregnation was attributed to the solvent powers of carbonic acid gas.

Ammonia exists in the purest water, so that purity alone is no guarantee for its safe transit through leaden pipes, but rather the reverse, as we shall find. Neutral salts are beneficial, because they retard the corrosive action by forming an impermeable deposit. The purest water that we can obtain is by distillation, and yet it has been noticed that the leaden lids of cisterns, on the under side of which distilled drops of water accumulate, are liable to rapid corrosion and final destruction, while the leaden cisterns themselves do not suffer. This must arise principally from the action of ammonia in the distilled water.

Great care should be taken that no decayed animal or vegetable matter is suffered to accumulate at the bottom of lead cisterns, as it may decompose the salts of lead and disperse the particles of lead in the water.

Christian, in his treatise on Medical Jurisprudence, suggests that rain or snow water for culinary purposes should not be collected from leaden roofs, nor preserved nor conveyed in lead, and that the same rule applies to springs of unusual purity, where the saline impregnation is so small that it does not exceed  $\frac{1}{100}$  part of the water. That spring water which contains  $\frac{1}{100}$  part may be safely conveyed if the salts be sulphates. That lead pipes cannot safely be used where the water contains  $\frac{1}{100}$  part if the salts be muriates. That spring water, even though it contains a large portion of salts, should not be kept a long time in contact with lead, and that cisterns should not be covered with lids of this metal. I may mention, by the way, that the plan is sometimes adopted of giving lead cisterns a thin coat of Roman cement; it is steadily adhering, is perfectly insoluble, and forms artificially what neutral salts do chemically—an impermeable deposit.

The last branch of ornamental lead work, perhaps the most familiar to us all, is that which combines the ornamental and useful in the glazing of patenies. I am sure there are few records of antiquity more interesting than the apparently frail relics whose spider-like rays are hung to catch the first beams of the rising sun, and so impress them into the service of the church, whether by saintly legend or the song. And yet, though so frail, they are abundant remains for us to study, and, if imitation is anywhere pardonable, for us to copy. The most interesting specimens I have met with are at Mantes-Benoite, St. Etienne, at Caen, Chalon-sur-Saône, Louviers, and Bayeux. I have now made a few drawings, and I may call your attention to one at St. Fortunato Tiro. I need not use illustrations to this part of my subject, for I suppose most of those I have mentioned are published in some shape or other. Take, for example, that splendid work of Cahour and Martin, "Monographie de Bayeux," and you will see that the beautiful examples of thoughtful and patient design we have in this one branch of ornamental lead work.

In bringing these few remarks to a conclusion, I must express my regret that I have not been able to give practical illustration to my remarks by actual examples; we have seen in the paper how much may be learned from the intelligible by reference to models and specimens, and I am sure that we can adopt no better plan, if called on to design any ornament in which foliated designs are introduced, than to practise on a piece of thin sheet lead, and model it for ourselves. Perhaps, in time, we may even rival Mr. Skidmore's golden-plated scanties.

**THE QUEEN'S HALL, WORCESTER.**—The Dean and Chapter of Worcester have presented the sum of £100, and the roof, or what remains of it that is saved, of the old St. Andrew's Church, in process of being pulled down, towards the erection of the new district church which will be built in the parish of St. Martin's, near the railway station, under the direction of Mr. W. J. Hopkins.

A PLAN is on foot to erect a fountain, from a design by Mr. G. Scott, in St. Giles's, Oxford, as a memorial to the late Mr. Howard, and the fountain proposes that its memorial should consist of an Institution for the promotion of art and science, under the title of Albert Institution. It is hoped to raise £10,000 for this purpose.

## ARCHITECTURAL ASSOCIATION.

AN ordinary general meeting of this Association was held on Friday evening; Mr. THOMAS BLASHILL, the Vice-President, in the chair. Mr. C. J. ADAMS, hon. sec., read the minutes of proceedings at the last meeting, which were unanimously approved.

**Nominations.**—The following gentlemen were nominated for membership, and will be balloted for at the next meeting:—Mr. John Estlin Goodchild, 22, Remington-street, City-road (proposed by Mr. A. W. Blomfield, and seconded by Mr. T. M. H. J. A. Smith); Mr. C. J. Adams, 3, Prince-street, Chelsea (proposed by Mr. Arthur Smith, and seconded by Mr. C. J. Adams); Mr. George Parry, 18, Gloucester-street, Loughborough-road, Brixton (proposed by Mr. F. F. Mills, and seconded by Mr. Taylor); Mr. T. Barker, 20, Oxford-road, Barnsbury-park, Islington (proposed by Mr. W. H. St. John, and seconded by Mr. C. J. Adams); Mr. John R. Gover, 7, Sydney-terrace, Portland-place, Clapham-road (proposed by Mr. G. B. Green, and seconded by Mr. T. M. Davies).

**Opening of the Library.**—The CHAIRMAN announced that the library was now open, and that books could be obtained by members on application to the curators.

**Lead Work.**—Mr. T. W. GOODMAN read a paper on Lead Work, which will be found on another page.

The CHAIRMAN said they had had a most interesting lecture from Mr. Goodman, and it did not at all, in his opinion, clash with Mr. Skidmore's lecture, which referred chiefly to gold as a metal. Those who had been out of England for however short a time, must have been struck with the amount of lead work to be found in France, Germany, and Italy, as compared with the small quantity in this country. He was sure the lead was a great deal better than any lighter metal; at Notre Dame, at Paris, there was an immense crusting of that kind, some 3 or 4 feet in height. Such things were very common on the continent, and in the case of the crusting, which could be cut and beaten out, and the great applicability of lead for ornamental work, it seemed strange it had not been more used for decorative purposes. As to the question of pure water being damaged in lead cisterns, that appeared to him a very simple thing, and easily explained. If water was pure it had a tendency to attract impurities from any material through which it might run, thus making itself impure. The purer the water the stronger the tendency it had to take hold of the impure matters in lead, and lead cisterns were very apt to get out of order. Lead could assume all cast shapes, and it seemed especially desirable to have ornamental lead erections.

Mr. GOODMAN was of opinion that iron work would supersede lead work to a considerable extent.

Mr. C. J. ADAMS, in the course of a desultory character, a vote of thanks to Mr. Goodman was carried by acclamation, and the meeting separated.

## RECLAIMING LAND FROM THE SEA.

IN A paper read recently before the Liverpool Polytechnic Society, by Mr. T. ANSTOTT, President, the author said this subject has occupied far too little attention, and has been chiefly pointed out and neglected, because the railways have outrun that of nearly everything else; fettered, too, as it too often is, with leases and other tenures which reduce it to a mere loan from the superior after all. And this taken in connection with the extension of railways along our seaboard, and the increasing number of steamships, and the increasing demand for pasture for cattle, attracted my attention to the matter as one worthy of some consideration and notice. In the Netherlands we see thrift and plenty, and no people more respect the dignity of labour than the Dutch; their cities, their villages, their coast and inland scenery, their agriculture, their industry, and moral worth; Brougham has said, in proof of their industry, that they inhabit a moribund reclaimed from old Ocean. And certainly the lowest part of the immense alluvial tract of Western Europe lies between the mouths of the Scheldt and the Rhine; while it is matter of history that much of our eastern counties have been submerged. Of the Rhine and the Meuse the remains of forests are covered by the German Ocean, and paved roads, villages, and the traces of former tillage lie buried in the neighbouring morasses, and dykes and embankments lead to land all around. The hydraulic works of canals, locks, and dikes are said to have cost Holland £200,000,000, and the Waterstaat, or Board of Marine Engineers, has been maintained for centuries by that Government. The ocean dykes are 30 feet high by 70 feet base, faced landward with wood and stone, and seaward with mats of rushes and flags staked with a pile. Amsterdam is built on piles, and intersected by canals as to form sixty islands, requiring 280 stone and wooden bridges, on one of them 600 feet long. The Folders are tracts of country lying under the water level of the adjacent country, and extend from 10 to 150 miles in length, and from 1 to 10 miles in width; there are only 76,000 acres of reclaimed, there are 170,000 acres of polder land, and 56,000 will be reclaimed. Four plans are adopted of reclaiming polders: first, by gaining it from the sea by engineering skill; second, by ground from the river; third, by draining off lakes; fourth, by digging turf for fuel in such quantities as to make extensive depressions, and draining it off, all requiring an extensive system of drainage, sluices, ditches, canals, embankments, and locks, with extraordinary machinery. The works of canals, locks, and dikes are said to have cost Holland £200,000,000, and the Waterstaat, or Board of Marine Engineers, has been maintained for centuries by that Government. 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on the seaboard, as exemplified by the frontage of new streets at New York, Boston, San Francisco, and elsewhere. But no land promises better opportunities and returns than our own for works of this nature, for the Swath alone, off Norfolk, occupies twice the space of Harland, and is very shallow. There is no other place in the world where the sea is so shallow, and so close to the land, millions, along the sea walls of which railways might be carried, and thus pay for themselves. And in Ireland there is Loch Neagh, ten times the extent of Dublin Bay—fifteen miles by seven—and not far from the coast, and the water is so shallow that it is possible to apply the principle of the Swath to all the lakes in the north-west of that island. Indeed, 467,000 acres are covered by water there, and 2,000,000 acres still unoccupied bogs and mountain land, to the reclamation of which the same principle would be better or more profitably turned in times of a famine, of food or labour.

The works of Vian and other French engineers show how much attention has been directed to sea walls and embankments to that country, and at the mouth of the Seine and elsewhere along their exposed coast the trumpet-mouthed breakers are everywhere. The French have also been successful in building transatlantic steamers, capable of going into Havre nearly at full speed, through a heavy and dangerous outside swell, and pass into the docks; and the plan of having open spaces, with piers driven at a great incline, serves well to spend the force of the waves. The French also have been successful in building ships whose accommodations are best adapted to life arising from an open seaboard, and to leave ample room inside for water storage, which can alone keep open any port, and is, no doubt, the source of the advantage we have in the scouring out of the channels. It is not probable that we ever allow a sill up in the estuary higher up, it will affect the channel outside.

CHURCH OF ST. JAMES THE LESS, UPPER GARDEN STREET,  
WESTMINSTER.

**T**HIE admirers of Mr. George E. Street have at length the satisfaction of seeing the metropolis adorned with one of his original and beautiful works. Hitherto, we have had to rest content with looking upon representations of them upon the walls of the Royal Academy Architectural Exhibitions, or have been obliged to take a journey—well rewarded, we admit—away from London to look upon the churches themselves, and to gaze at the designs of the architects who have produced the ablest of our church architects. Wherever we light upon his skillful drawings or examine his buildings, we immediately recognise the individuality which he stamps upon them. He is one of the few who have studied Medieval architecture with real and marked advantage—not to give us simply a reproduction, but a further development of it. He is not content with copying a collection of details, or with putting together unconsciously together, what he takes in as able hands as hard, rigid features as pliable as clay in the hands of a potter. It is the freshness and life breathed into everything he touches, which, spite of faults, makes his buildings so interesting. We cannot read them at a glance, because they are not made from familiar stereotyped plates; but we can with a leisurely stroll round him, examining carefully every bit of detail, and, regarding them from every point of view, find with each step ever varying enjoyment.

Through the liberality, mainly, of the Misses Monk, daughters of the late Bishop of Gloucester, the new church of St. James the Less has been built, and Mr. G. E. Street was employed to design it. It has now been some few months consecrated and opened for service. We give, at page 63 of our issue of the 10th inst., a plan of the building and a description of its interior is of red brick. The columns are granite, with free-stone caps and bases. The font is of alabaster. The pulpit is somewhat over-charged with carving. On either side of the altar are figures let into the stone in a sort of niche. They represent typical women of the Middle Ages, the Virgin Mary, the Virgin Elizabeth, the Virgin Anne, and the Virgin Catherine. The ceiling is of wood, painted in a strong, pale red. The arch over the credence table there is a fine piece of sculpture in low relief, representing, grouped vine-leaves and corn-stalks. We must, however, refer to our former description for other details. We shall be glad if our readers will be so good as to visit the church and give us that study which its beauties deserve.

The exterior, unfortunately, is so hemmed in by houses that from no one point can it be seen in its entirety. The tower springs boldly up from the ground, and is connected with the church by an arched porch. It stands like a stern sentinel, proud of its position, beside the building, and is the only part of the church which can be seen from the street. The finest of the Lombard towers. It is a pity that funds cannot be had to buy the adjoining houses, so as to effect a thorough clearance round this noble edifice. Meanwhile, we would suggest to all visitors to seek out a narrow street, which lends the chance and the space, and enjoy the view from the back of the church, and not the building. The full extent of the church cannot be seen from it; but the tower, as there seen, groups very picturesquely with the apse and transept, and gives a good idea of what the church would appear if disencumbered from its belt of ugly houses. The contract has been most satisfactorily carried out by

**PRESERVATION OF HAMPTON-LEATH.**—A public meeting having been convened for the purpose of taking such steps as might be deemed most expedient for preserving Hampton-leath from building operations, a lengthened discussion, in which Mr. Clowser, Mr. Worth, and other gentlemen took part, occurred, and Mr. Gurney Heave said he was quite willing that some concession should be made to Sir Thomas Wilson, if (Sir Thomas) would in his turn give a written assurance that he would not build on the heath. Ultimately a resolution to the effect that Sir Thomas Wilson should apply to Parliament for an order of the House of Commons, giving him the right to build on the Ham-leath road, the meeting would not oppose such application provided he gave a written promise that he would not encroach on the heath, was put and carried.

ROYAL INSTITUTE OF BRITISH ARCHITECTS

ON Monday last an ordinary general meeting of this body was held; Mr. WILLIAM TITE, M.P., F.R.S., the President, in the chair. Mr. T. HAYTER LEWIS, hon. secretary, read the minutes; of the previous meeting, which were found correct and confirmed.

**Donations.**—Mr. JAMES BELL, hon. secretary, announced several donations, amongst others, statistics respecting the colony of Victoria, including official reports on architectural and engineering matters, accompanied by an elaborate plan of the mining districts and several other plans relating to the colony. A vote of thanks to the donors was passed.

ere of distinction. *Prizes*—said CHAMBERLAIN said, part of the business of that event was of a very gratifying character, because they had the opportunity on the present occasion of presenting the medals and other prizes disposed of by the Government to the men who had distinguished themselves in the war, and to which, and about which, they were all of them most interested. The first and the most important thing was, naturally, the presentation of the Royal gold medal—(hear, hear)—and he was sure he might say they were all much gratified to see the medals presented to the men who had won them. He was sure that the opportunity of presenting a memorial so valuable in itself, and so interesting in all its connection with architecture during now a very considerable period, to so distinguished a gentleman as Professor William Henry Inge, would have been a great pleasure to all of them. He was sure that the institution almost from the very commencement of her reign; it was not until the year 1848 that she was so kind as to place at their disposal, annually, this very elegant and useful collection of medals, and he thought that they would all be glad to have placed at their disposal, and he thought the list which followed showed they had

not been unimpaired of his Majesty's gracious kindness. The first name on the list of honour was that of Professor Cockcroft, to whom the King had conferred the title of his Majesty's architect, in recognition of his esteem, and of admiration of his great talents and merits as an architect. Council very wisely resolved, with the gracious permission of his Majesty, to present the Royal gold medal each alternate year to a foreigner eminent in his profession, and to reserve the other half of the list of honour to British architects who had distinguished themselves in their profession, to distinguished writers on architecture, or to men of science relating to architecture of any kind. Council further resolved, that the list of honour should be presented to the Conclaved very wisely; and, immediately availing themselves of the gracious permission of his Majesty, and after honouring the most eminent architect of the day, they presented the list of honour to the Conclaved, and to the King, whose genius all English architects would well remember, as well as the incidents which terminated his life before he returned to Rome. His need not go further into the list of the eminent men who had received the Royal gold medal, as it is a list of names which is immediately familiar to every eye, and

Having acknowledged on various occasions the efforts of men of science and genius, English and foreign, the Institute had in the present instance, with the gracious permission of Her Majesty, awarded the Royal gold medal to the Rev. R. Willis, Jacksonian Professor, (Cambridge—Applause.) He then, in it to the President, and in the name of the Institute, to thank him most warmly for the honor conferred in his presence—it was a procellous not very English in its character, not very much in unison with the character and habits of the English people to praise one another—yet he must observe he might be pardoned for saying a few words of praise of their kind and excellent friend, the President, a work tending to produce the art of architecture, or the various branches of science connected therewith, but because he had produced many such works—(Applause.) He was looking, a few days ago, at some of the works of Professor Willis, and he held in his hand a paper on which he was to read the first of his works on the subject of Willis on architecture. It was dated 1835, and was works on the middle ages, particularly on Italy; and he took, though so long published, had lost none of its interest at the present day. Much that that work contained had led to further inquiry, and had been of the very greatest possible interest, importance, and value to architects. He then, in the name of the Institute, presented the gold medal to him, and said, "Gothic architecture. Well, then, they found their friend Mr. Willis came before them with a strong claim that followed almost immediately afterwards, in following Professor Willis, and being appointed Jacksonian Professor, at Cambridge, of experimental philosophy—a chair which the University of Oxford had not; and that, in the year 1835, he was elected to the fourth of the four chairs in this and in the University of

appointing such a Professor (Applause). Then Mr. Willis had never seriously clung to one particular view of architecture, and in one of his papers he found he gave an essay on the difference between the subtleties of Egyptian and Grecian architecture. Then his clerical essays on celestial, Egyptian and Grecian architecture, and his papers on the history of the dome, drew him in the way of showing them how observations should be made on such matters. At last came the honourable testimonial which he had the pleasure of presenting Mr. Willis with—the gold medal of the Queen. He was sure they were all much indebted to him for his papers, and he was glad to see that he had done his art and science of architecture. His teaching had been as useful in mechanical appliances and mechanical science as it had been found valuable in references to all that was useful, as well as elegant and ornamental, in architecture. No doubt, he had been a great help to the profession, and he was sure that he had bestowed, than that which it was now his pleasure to hand to Professor Willis—(Applause). (The Chairman then presented the gold medal to Mr. Willis amidst loud applause.) He hoped that health and strength would be given to him so that he might be able to constitute his most useful, most honourable, and most valuable labour—(Applause).

Professor WILLIAMS, in returning thanks, said he found himself very much in the same difficulty as that to which his friend in the chair had alluded in a kind of speech, in which he had greatly exaggerated any claims he might have; but he would not say that he had been so much in the hands of his friends as to be unable to think that night, without saying something of himself. The honour conferred upon him that evening was one of the great honours he had happened to receive in the course of his life, and the testimonial which he had received from their friends was one which he would never forget. In reference to the works which he had ventured to publish, from time to time, he would only mention one, which would be still dearer to him than the rest: it was ever before it was one which might have contributed to the reputation Mr. Williams had acquired, and it was one which he had been able to publish, and it was published by the Royal Institution of British Architects, the work he

reverted to was an "Essay on the Vault of the Middle Ages." He assured the members of the Institute he should never forget the honour they had bestowed upon him, or the kind way in which the President had spoken of him—(Applause).

The CHAIRMAN said the next reward he had the pleasure of presenting was the Lucette silver medal, with five guineas, to Mr. P. B. Wilson, for illustrations and a description of the Church of St. Peter and St. Paul, Breuckbahn Priory, Northumberland.

Mr. WILSON briefly acknowledged the compliment.

The CHAIRMAN next presented a prize in the value of five guineas, instead of the usual medal, to Mr. C. H. Milsand, for a design for a museum of sculpture and painting.

The CHAIRMAN then presented Mr. Cockerell's prize of ten guineas to Mr. A. M. Davies, for a design for a residence for the Countess of Devon.

The CHAIRMAN presented the next prize (an Institute one in books) to Mr. R. P. Spiers, for a design for a villa.

The CHAIRMAN said the next prize was one of ten guineas, which he had offered for the best study in soundings Classical, because, though a great lover of Gothic architecture, he was wishful that Classic should not be forgotten. The prize was awarded to Mr. H. S. Legg, for designs for a small town-hall and a railway station.

The CHAIRMAN said the next prize he had to present was what was known as the student's prize (in books), and they were always very anxious to encourage students in everything that was good. The prize was awarded to Mr. R. H. Chamberlain, for a design for a dispensary, suited for a manufacturing town.

The CHAIRMAN then presented Mr. S. Fry, student, with a prize in books, for the best series of monthly sketches.

The CHAIRMAN, on the part of the Council, addressed on their young friends who had received prizes to exert themselves to the utmost. The prizes were not in themselves of so much value, but as being calculated to call forth application, industry, and taste, they were of great importance.

*The Architecture of Palestine.*—The Rev. GEORGE WILLIAMS, B.D., then read a paper by Signior Pierotti, published in the *Public of Jerusalem*, "On Jewish and Roman Architecture in Palestine, from the earliest period to the time of the Crusades." Signior Pierotti was present, and pointed out on various plans and drawings pictures referred to in his paper, which will be found reprinted in another portion of this issue.

Mr. J. FERGUSON, having been called upon by the Chairman, said he really did not know that the paper which had been read called for any remarks from him. What Signior Pierotti had said was very interesting, and he did not think it was not an account of his discoveries, but an account of a variety of buildings existing in Palestine which they knew of before. He had expressed nothing new, and, therefore, it was not necessary he (Mr. Fergusson) should refer to the subject. If Signior Pierotti had confined himself to the subject of the Holy Sepulchre, as he did at the Architectural Museum, it would have been well worth while to discuss the matter thoroughly, because that gentleman had, with great industry and intelligence, and with great success, explored the underground watercourses and other matters of interest, but all the matter he had said did not build upon what he did not know, but what he knew. As to the Golden Gateway, Signior Pierotti said it was not a building of Herod or of Justinian; if it was meant to be said that a building of Justinian, it was not a building of Justinian, but it was not a temple, or a part of the temple. He did not quite agree with what Signior Pierotti advanced about the Holy Sepulchre; and as to what were called Pools of Solomon, he should like to know why they were called so, for he had not mentioned in his paper. He had not brought forward any building they did not know before, nor had he brought forward any new idea on the subject of the buildings in Palestine, and though a book on such a subject would be valuable, he did not know that he had anything to say on the subject of the lecture. He thought, however, they were all indebted to Signior Pierotti, who, for eight years, had surveyed and brought to light the architecture and archaeology of Jerusalem; in that way he had done great service, and he (Mr. Fergusson) should have with pleasure the publication of his work. He proposed a vote of thanks to Signior Pierotti for his valuable labours in Jerusalem, the results of which, he hoped, he would very soon give to the world in the work he proposed to publish.

The Rev. GEORGE WILLIAMS, seconded the vote of thanks. The only share he had in the goodness of the evening was simply reading a translation of the paper by Signior Pierotti; but he was surprised to hear Mr. Fergusson say there was nothing new in the paper, for the description of the Pools of Solomon, and other objects, were new objects, which he (Mr. Williams) thought, when he was in Palestine. And it was a great merit of Signior Pierotti that he had given them something positive to go upon, for formerly they groped in the dark. Now that Signior Pierotti had lifted the dust they were in a better position, and the publication of his work would be, he (Mr. Williams) thought, lead to important results. He quite felt himself that they did not at all yet know the value of the discoveries of Signior Pierotti nor seen their way to the inductions from the premises he had made, and that he, he was sure, all applied to the subject in his book when it was published. It was generally admitted that far that Mr. Fergusson had been confirmed in his previous views on the subject of Jerusalem, and so had he (Mr. Williams) been confirmed, but he certainly hoped that it would not be the most satisfactory result of Signior Pierotti's discovery, and that they might arrive at some satisfactory conclusions in which the members of the Institute would be able to acquiesce.

The CHAIRMAN said he never saw any collection half so complete of the ruins of Jerusalem as that which that evening adorned the walls of the Institute. He proceeded to say that he recollected Barry, very particularly on his return from Syria, remarking on the character of the masonry there, but that the course of time being set on one on the other in the Jewish masonry; but he was not aware of Jewish masonry, as he had not seen it. He thought, however, that the great misfortune of the illustrations much of value was to be found, and when the promised work was complete they might furnish suggestions for a better acquaintance with the most interesting and mysterious ruins of the East.

Mr. WIGLEY was happy to say that Signior Pierotti had given, in a practical way, a notion of its architecture worthy of the Holy Land—a country where the most important events had taken place—and it certainly was a most important history at the time of the Crusades. He thought, however, that he had brought forward in various portions of the paper of Signior Pierotti; but he thought the lecturer under mistakes in his remarks about the times and dates of masonry, whereas they referred, according to his idea, to different positions

of the building. As to the Golden Gate, Mr. Fergusson said Signior Pierotti stated it was not Herodian nor of the Justinian period; but he (Mr. Wigley) thought Signior Pierotti was said of Herodian, and he (Mr. Wigley) thought, however, that they had here a complete piece of work of the time of Herod the Great. In Justinian's time there could be no reason for such a gate being constructed on the spot where it was. As to the Southern Gate, which was not alluded to in the lecture, it seemed to be of the same period as the Golden Gate.

Professor DONALDSON said, having observed remains of antiquity in various parts of the Roman Empire, his opinion was, that the Golden Gateway did not date from any Roman period, or said of Herodian, but that it was of the time of the Antonines they did not find architecture so degraded as in the details of the Golden Gateway before them. They had proof of that both at Babec and Palmyra, so that when they saw the Golden Gateway, they had the time of that assigned to it. He proceeded to say that he felt convinced that it would be difficult to bring before them satisfactory historical and architectural evidence of the peculiar construction of a chamber, by looking, as the lecturer had done, down a well. When (Professor Donaldson) visited the tombs of the Egyptians, with the glimmer of the lights it was difficult for him to discover the construction of the tombs. Therefore, it would be difficult, by looking through a hole of small diameter, to tell what was the peculiar construction of a chamber. Signior Pierotti alluded to a parallel structure in Greece to what he found in the East; but he (Mr. Donaldson) did not find the parallel, and he saw a much more recent construction, both in the forms of the stones and the modes in which they were put together. Signior Pierotti would lead them to believe these monuments were of. At the same time, he begged to award to Signior Pierotti the due meed of praise for bringing before them all he could ascertain, but still to warn him against being too credulous.

The vote of thanks to Signior Pierotti was carried by acclamation, and the meeting separated.

## THAMES EMBANKMENT.

THE following is a copy of Mr. McLean's report to the First Commissioner of Works, of the estimated expenditure to carry into effect the provisions of the Thames Embankment Bill; distinguishing the cost of the approaches to the embankment, and of the street between the embankment and the Mansion-house, including compensation and all other expenses;—also estimated cost of the Low-level sewer, and the length of the embankment and of each street.

Estimated expenditure to carry into effect the provisions of the Thames Embankment Bill, including compensation and all other expenses.....	£ 1,200,000
Estimated cost of the approaches to the embankment.....	80,000
Estimated cost of the streets between the embankment and the Mansion-house, including compensation and all other expenses.....	405,000
The length of embankment between Westminster-bridge and Blackfriars-bridge.....	Yards, 2,235
Length of street from embankment to the Mansion-house.....	1,970
Length of approaches to embankment:—	
From Whitehall.....	230
From Whitehall-place.....	225
From St. James's Palace.....	225
From Buckingham-street.....	29
From Oxford-street.....	29
From Wellington-street.....	29
From Surrey-street.....	14
From Norfolk-street.....	26

Mr. BAZZAGETTE states that it is not possible to give a close estimate for the cost of constructing the Low-level sewer within the embankment on the north side of the Thames without definite plans from which to estimate, but it may be approximately £200,000, including the trench construction, the cost of the preparation of the foundations, cofferdams, and incidental works, which would be debited to the embankment.

## THE POLYTECHNIC INSTITUTE.

THE directors have introduced several novelties to attract holiday folk to this Institution. Professor J. H. Poynter is lecturing "On Colour in General, and Cool Tar Colours in Particular." After alluding to tar, and tracing up from the disagreeable fluid the production of benzole, aniline, mauve, and magenta, the lecturer proceeds to show his audience some curious productions of colour, the experiments are shown with the assistance of the large voltaic battery and electric light. Stereoscopic views of "Paris as it is," shown by the new achromatic lenses, are by Mr. England. Then comes the lectures and songs of Messrs. Matthews and Hill, and the last of the series is a new diorama series of dissolving views of London, in all its interesting epochs. These views are designed by Mr. Brown, and painted by Messrs. Childs and Hill. The Broun family, and a musical and buffo entertainment by Mr. George Buckland.

**PREVENTING INCRUSTATION OF STEAM BOILERS.**—According to the *Miner's Journal* Mr. Peter Taylor, Italian, has patented an invention which consists in applying a pipe to the interior of a steam-boiler, which pipe is made with a longitudinal slit extending the entire length of the boiler, and communicating with an off-pipe, in which is a discharge valve capable of being opened and closed rapidly. The usual mushroom shape, and in the lower, or on the spindle, is a diagonal tube, taking in a fixed stud, the groove is of such an inclination that by turning the spindle about one-half round the valve is opened sufficiently to discharge the sediment which enters the pipe through the off-pipe. The spindle is so constructed that some cones two or three slotted pipes are applied near the bottom of the boiler, and one or more are supported near the surface of the water in the boiler, to collect the scum; the pipes may be connected to the same blow-off valve, or each pipe may have its separate valve.











Mr. Cowper said that a tunnel under the existing road was not part of the original plan, and he feared it could not now be made without considerable expense. Perhaps the object could be accomplished when the embankment should be completed, but he believed that there would at present be no chance of the bridge which could easily be made stable. There would be no difficulty in constructing the necessary passage.—Mr. Cowper said that the sum he now asked for would be spent, or was intended to be spent, within the financial year. He said that he was buying the property for the approach to the proposed bridge, which would probably not be opened for a year, owing to the delay of legal negotiations, but it would be very undesirable for the Government to be deprived of the power of completing any purchase whenever it could be effected. He said that he had £20,000 to spend, and also a vote of £1,200 for fostering the approach to Westminster-bridge.

### FORTIFICATIONS AT PLYMOUTH.

Mr. Bentinck asked the Secretary of State for War whether it was true that an artificial island was being constructed in Plymouth Sound by sinking stones, for the purpose of building on it a fort similar to those which were under construction at Spithead?—Sir G. C. Lewis said it was intended to construct a fort behind the breakwater—not upon it, as originally intended. The foundation was not in the nature of a breakwater consisting of stones thrown down, but the walls would be nearly perpendicular, and the plan of the fort was in accordance with the recommendation of the Defence Commission.

## NATIONAL GALLERY, DUBLIN

A sum of £2,500 was voted, in continuation of former grants, towards the erection of a national gallery for painting, sculpture, and the fine arts, and for the reception of Archbishop Marsh's public library in Dublin.

## Lighthouses.

On the vote of £1104 for lighthouses abroad, Mr. Childers wanted to know who was responsible for this expenditure, because there appeared to have been a great waste of money in attempting to erect a lighthouse on the Basos Rocks. He wished to know where that lighthouse had been erected on these dangerous rocks. The hon. member said that the Board of Trade had proposed to erect a lighthouse on the Basos Rocks, but that the Board had been so much afraid that the lighthouse might be blown away by the waves of the Basos Rocks and the money expended thereon were gone to the bottom of the sea. After a very considerable expenditure of money the idea of erecting a fixed lighthouse on the Basos Rocks was altogether abandoned. He hoped that the unfortunate endeavour to erect a fixed structure upon these rocks would be a warning to the Government not to attempt so hazardous an experiment in future.—The vote was agreed to.

## HOLYHEAD HARBOUR WORKS.

It was proposed to put a sum of £101,291 should be voted on account of the new packet harbour and harbour of refuge at Holyhead, and of Portpatrick Harbour.

—*Sir M. Williams* complained of the enormous expense of this harbour. It had cost £80,000, and he wished to be informed whether the present estimate would be sufficient to complete it. He said that the Government were not to be blamed if the accommodation had caused much embarrassment to the Government, who had proceeded with it as rapidly as they could. He gave a short history of the measures taken in connection with it, and said the temporary pier was preferred to the permanent one because it was more easily altered and enlarged, which was desirable to proceed with the stone pier, and they had turned their attention to what was necessary for the postal and passenger service of Ireland. Improvements were being made in the temporary pier, which would afford the same security and safety as the permanent pier, and strengthen it by £10,000. A sum of £30,000 would be required to strengthen a curve of which the railway complained.—*Sir M. Peto* said this was one of the numerous class of cases in which estimates had been enormously exceeded. There was no guarantee that this work would be completed even now within the present estimate.

Mr. Bentinck said an error that had been committed in regard to the Holyhead harbour was that which occurred in nine cases out of ten—namely, that from false considerations of economy a sum of money was voted which was inadequate for the purpose, the result of this mistaken economy being that the harbour was not completed, and the Government were obliged to expend a much larger sum in order to render it to a certain extent useful. The harbour as originally constructed was perfectly inaccessible to large vessels, and, therefore, wholly useless except to small coasting vessels. The Government had been told that the harbour was a refuge at Holyhead, and they were still using the old harbour for which the new harbour was meant to be a substitute. Except as a harbour of refuge, to be used by those who chose to do so, the harbour upon which all this money had been expended was altogether ignored. He asked whether it was a satisfactory or a profitable state of affairs that the Government should have expended so much money on the construction of a harbour of refuge which was inadequate for the purpose either of a harbour of refuge or of postal communication, they should now spend large sums of money upon it at the same time that they continued to spend money on the new harbour?—This vote was

The following votes were also agreed to: £96,342 for public buildings in Ireland; £1,250 for temporary Foreign-office; £10,000 for Industrial Museum, Edinburgh; £903 for the enlargement, repair, and alteration of King's College and Marischal College, Aberdeen, and a vote of £5,000 for the construction of a new Record-office in Dublin.

MONUMENT TO THE LATE DR. ALEXANDER AT PRESTONPANS.—A statue

is to be erected at Potompana in the memory of the late Dr. Alexander. The site is on the south side of the main street, towards the east end of the town. The pedestal will be reached by two flights of steps, and surrounded by a gravelled plateau, so that a near view of the statue on all sides may be accessible. The statue is by Mr. Brodie, of Edinburgh. It is eight feet in height. The figure appears to be seated in the full uniform appertaining to the rank of a general in the decorated field army of the British army, and the figure of the British army, with the left hand supported on the hilt of the sword, and the right resting on the waist-belt. A military cloak hangs over the shoulders of the statue.

## LIGHTHOUSES ON THE GOODWIN SANDS

R.N.—I will thank you to allow me to direct public attention to the great necessity for building two lighthouses on the Goodwin Sands. I propose to sink a shafted wrought iron, screw-down anchor, 60 ft. long, and 18 in. diameter at the top, and to surround it with a cage secured by vertical wrought-iron bars from the lower to the higher water mark; each corner bounded with plates, the bars passing through the latter to insure sound construction; I also propose to enclose the cage with a second cage, made of horizontal bars, and to secure it to the lighthouse with iron chains inside, and above high-water mark. I would have a steam-engine, gas-work, and a refuge for shipwrecked mariners and others, to enable them to take shelter during storms, and to pump out the vessel if necessary. The vessel, as well as a tender, and a hawser once secured the vessel might be drawn with ease by the engine, and the vessel could be raised or lowered at pleasure. It is estimated that the whole work may be performed for £5,000, and completed within twelve months.

JOHN NOTT, C.E.

### TENDERS.

DWELLING HOUSE, STREATHAM.

For house and stables at Streatham. For F. Fuller, Esq. Mr. R. W. Drew, M.A., architect.

Quantities supplied by Mr. J. A. Bunker.

Williamson .....	£4,700	Carter .....	£2,545
Fritchard and Sheldon .....	2,970	Turner and Sons .....	2,397
Downs .....	2,965	Trotter and Sons .....	2,743
Child and Son .....	2,897	Dencon .....	2,670

## PARSONAGE, BENKS.

For the erection of a Parsonage House, at Fawley, near Wantage, in the County of Berks.  
Messrs. John Money and Son, architects, Northbrook-street, Newbury.

George Adey and Son.....	£1,359	John Haines.....	£1,395 10
Robert Messinger.....	1360		

CHURCH, CHATHAM

For the carcase of a church in the Maldstone-road, Chatham. Mr. Henry Clutton, architect, 9, New Burlington-street, W. Quantities by Mr. Crocker.

Station and Vaughan .....	£2,109	Answered .....	£1,810
Stump .....	1,947	Splice .....	1,695
Naylar .....	1,887		

CHAPEL, LIVERPOOL

For new congregational chapel, West Derby-road, Liverpool. Messrs. Poulton and Woodman, architects, Bending.			
Tomkinson .....	£4,000	Mullin .....	£3,618
Yates .....	3,745	Bateman .....	3,225
Nicholson and Co. ....	3,839	Burroughs .....	3,467
Haigh .....	3,795	Nelson (accepted) .....	3,362
Roberts .....	3,120		

### ROADMAKING, GRIMSBY

For the formation of about a mile and a quarter of road and drainage in the East Marsh.			
J. Barry.....	£4,268 17 9	A. Roston.....	£3,376 10 0
T. Endeavour.....	3,640 0 0	J. Waller (accepted) .....	3,350 10 0

DWELLING-HOUSE, PENGUIN

For a house at Fenge, Surrey, for James Corvill, Esq. Mr. Henry Jarvis architect.			
Bottom and Co.	£100	Glenn	£830
Crawley	915	Tarnot	789
Marsland and Son	880	Kent	775
Pugh and Wallis	875		

WAREHOUSES, LONDON

For new warehouses for Messrs. Marsh and Co. Messrs. Whales and Sparks, architects.			
Jacobs .....	£8,495	Hach .....	£7,997
Brown and Robinson .....	8,310	Corder .....	7,900
Ryder .....	8,200	Hill, Keddell and Robinson .....	7,768
Axford .....	8,160	Myers .....	7,438

## COMPETITIONS OPEN.

**CORK.**—Architects are invited to furnish designs for the erection of the cathedral of St. Finbar, Cork, at a cost not exceeding £15,000. A premium of £100 will be given for the best and most approved plan, and £50 for the second. Plans and designs to be sent to the hon. secretary, J. Ven. the Archdeacon of Cork, Rev. J. N. Woodroffe, or T. M. Catorne, Esq., Cork, not later than the 1st August next. Further information and a plan of the site may be obtained on application to W. C. Bennett, Esq., notary public and Chapter clerk, 18, Southwall Court.

## SCHOOLS, &amp;c.

LANCASHIRE.—For the erection of the proposed new schools, vestries, &c., Rawtenstall, Lancashire. Plans, &c., with Thomas Simpson, architect, Nottingham, to May 10th, inclusive; and at Rawtenstall, on application to Thos. Hoyle Whitehead, Esq., on and after the 12th May. Printed quantities will be supplied on application to the architect. Tenders to be delivered to Thos. Hoyle Whitehead, Esq., Rawtenstall, on or before the 21st of May.

### CEMETERY WORKS.

[illegible]



## THE BIRMINGHAM AND MIDLAND INSTITUTE.



THE Town Council of Birmingham have lately issued an advertisement inviting plans to be submitted in competition for the erection of a Free Library and Reading Rooms "upon vacant ground adjoining the Midland Institute building, with an elevation uniform with the said building." This advertisement, except that no premiums are offered, is not so widely different from the ordinary run of architectural competitions as to induce any architect willing to compete for public works to suspect that there could be much amiss, and it will probably have attracted notice from a good many persons.

The real facts of the case are not, however, those which the reader of this advertisement, if not otherwise aware of what had occurred, might reasonably believe them to be. It is not really a building which is proposed to be built in a style such as will correspond with some already completed and successful ornament of the town; nor is the case one in which the Town Council are free from previous engagements. The proposed erection is in reality the completion of the Midland Institute course to competition, after first employing and then setting aside one of the first architects of the day.

—a hitherto unfinished building; and the Town Council have only had recourse to competition after first employing and then setting aside one of the first architects of the day.

The letter of Mr. Edward Barry, which will be found in our number for the 25th April, in which he gives a brief, clear, and temperate statement of his view of the case, will no doubt have been read by most, if not all those who have seen the advertisement.

We this day publish a letter, forwarded to us by the Town Clerk of Birmingham, containing a counter statement, intended to serve as a defence of the Town Council in what they are doing. Beyond the somewhat broad statement contained in the first paragraph—which is, not however, couched in quite the most vigorous and brilliant terms which might be used to express the same thing as the words "not in accordance with the facts"—this letter is, like Mr. Barry's, temperate and well expressed; but it fails to alter, to any great extent, the impression which we had derived from Mr. Barry's statement.

It may be remembered by some that the Midland Institute formed the subject of a limited competition some seven years ago, and that Mr. Barry's design, which received a great deal of praise at the time, was adopted, and, as far as funds were forthcoming, was carried out. The means in hand, however, only sufficed for the erection of one half the building, and it is the completion of this unfinished building, and not the addition of something different, which is now contemplated.

Further, the Birmingham Town Council, having this competition in view, applied in the first instance, and very properly, to Mr. Barry, and we learn from his letter that he prepared, at their request, a full set of drawings and specifications, and that tenders were prepared; these, however, were higher than had been anticipated. Mr. Barry states that "upon this basis" at once offered to forego all claim for remuneration for what he had done, and to prepare new plans to suit the financial exigencies of the case; and that the Committee at once accepted the first part of his offer, but that the only answer to the other part was that invitation by public advertisement to architects to submit plans to which we have before referred.

The answer to those parts of this statement which toll against the Town Council does not seriously alter them; it merely informs us of a considerable amount of negotiation, such as must naturally have occurred under the circumstances, and it puts us in possession of the amounts of the preliminary estimate and subsequent tenders. The discrepancy between these amounts is very serious, and shows that Mr. Barry was in a position in which he could not honourably do less than what he proposed to do—namely, to prepare new plans without charging for the old ones. It must, however, be most distinctly understood that this offer is not equivalent to a resignation of the appointment as architect to the building, and that the only way in which that appointment could fairly, and, we believe, legally, be taken out of Mr. Barry's hands would be, notwithstanding such offer, by paying him in full for all he had done in his capacity of architect. It appears, however, from the Birmingham letter, that a small sum has been paid to Mr. Barry, but this must clearly have been for preliminary sets of sketches, and not for the working plans and specifications and services in procuring tenders; for the amount paid to

Mr. Barry was £45, whereas the lowest sum that, in accordance with professional usage, he could have charged for the complete set would be 21 per cent. upon his own estimate, or £262 10s. Yet this payment of £45 is paid forward more than once, and dwelt upon as a strong point in the letter.

The gist of the matter appears to be this: after all the trouble had been gone through, and reductions had been proposed, and their feasibility investigated by Mr. Barry, he was able to see his way to bringing down the cost to £112,250 and no lower, and was prepared to make plans, &c., on that basis; but the Town Council determined that Mr. Barry would say that the building could be erected for the amount which he had at the outset mentioned—namely, £10,500—that they would find some one else who would say so. This could, of course, only honourably and legally be done in one of two ways—either Mr. Barry must resign his appointment, or he must be paid off. It is clear, however, that the resignation has even been sent in, and equally clear that no payment, beyond the £45 referred to already, has been made; yet Mr. Barry is now told, not that his services will be dispensed with, in the only manner in which that could be properly done, namely, by his being paid for all that he has already done, but that he is not to be paid, and the matter is to be put into other hands. Of the injustice of such a course there can be, we think, little room for doubt. We are glad, however, that Mr. Barry has carried the matter further, and has procured legal advice; and still more so that the opinion furnished him is "that the proposed competition cannot legally be carried out."

Appended to Mr. Barry's letter is a statement signed by five of the architects engaged on the original competition, from which we learn that a distinct engagement was entered into with the competitors, that the successful one should be employed as architect of the building, which engagement forms part, but probably, not the strongest part, of Mr. Barry's claim upon the Town Council. The principal part of it is the very simple fact that Mr. Barry having been appointed architect, an attempt is being made to displace him in a way which will probably prove unsuccessful, but which shows clearly that the persons making that attempt are not aware of the legal and equitable position held by an architect who has been appointed, or, if aware of it, have not thought proper to act up to their knowledge.

We think that this flagrant but not solitary loss of the way in which architects are treated should not be lost upon the profession. It must have been suspected that certain members of it—and those not the most obscure or the most newly-entranced—were ready to do wrong, even under any circumstances and at any cost which cannot be called by a milder name than rapacity, or else surely no committee would venture to treat a prominent man with gross injustice, and then expect that members of his own profession, experienced enough to be fit to carry out a large public work, would be so stupid as to offer themselves as ready to do the same sort of treatment for the sake of possibly earning a few hundreds. Is there any ground for this? Have the architectural body uniformly shown themselves high-minded, disinterested, and willing to forego personal advantage when they could not honourably obtain it; or have there been instances of the practice, of unscrupulousness as regards an architect's hands, of charging half commission to the client and making it up by getting five or ten per cent. from the builder, of submitting to humiliating conditions sooner than be excluded from a competition, and of interest, disclosing of mottoes, and underhand work when once admitted? We are not going to pretend to answer these questions, but we do say that if such things exist, and if those who do them are not stigmatised by the profession at large, but remain identified with its most respectable members in the public estimation, we have possibly in that fact a clue to the estimate formed of the architects of England by the Town Council of Birmingham.

We have very lately taken occasion to urge the desirableness of some such alliance between the architectural societies of England as was proposed last year, and we consider that this insult to the profession, and some others of the same class which we could name (including among them certain things which have risen out of the Great Exhibition building controversy) are so many arguments which speak loudly in favour of all proposals that will tend to promote a better understanding among architects.

The conduct of competitions offers but too many inducements to underhand dealing, and we earnestly hope that gentlemen who are so circumstanced as to be induced often to do so, should be induced to turn their guard to maintain a high standing. It is on some accounts to be regretted that every invitation which appears should call forth so much painfully expended labour and thought, where only one, or at most two or three, can be rewarded by even a recognition of their merit; but that competitions may not advantageously employ the leisure of persons who are entering on practice, and who do not find their time fully occupied, but because the exhibition of this large amount of gratuitously expended labour cannot but tend to "cheapen" the profession in the eyes of the public, and cause it to be supposed that men who will do so much for a reward of no other certain value than the pleasure of being employed, mean usage, poor pay, and disrespect who they are actually employed professionally. Such a supposition is, as a general rule, totally wide of the truth, but still architects cannot be too careful to show that if they are proud of their efforts in those instances where honourable rivalry or the obtaining of professional reputation is the object, they are consequently contentment, call for exertion, they know what is demanded of them by considerations of self-respect, and of the respect due to others.

To return to the question immediately before us, we have expressed

our hope that the architects of England will take a lesson from it. Among other matters, we hope that they will see how desirable it is to prepare preliminary estimates with greater care and accuracy, and we have no doubt that had the preliminary estimates in this case been a more just one, this unseemly squabble would never have occurred. We hope that Town Councils and other public bodies of the sort will get a lesson also. It would gratify us to be able to hope that the architects of England themselves will give this lesson, and that the Town Council of Birmingham will find themselves wise in plan even in its answer to their advertisement. And it appears clear that if plans are sent, and the competition is decided, the matter will not thereby be put at rest. The Town Council state that they have not acted "unadvisedly"—a figure of speech meant to imply their having taken legal advice—probably that of their legal clerk; their architect also admits plainly that he has placed the matter in the hands of his solicitor. Between a wealthy and angry town council and a prominent and energetic architect, the "successful competitor" will probably find his position none of the pleasantest, and he may consider himself lucky if he escapes with something short of a chance-suit.

In the premium and the profit worth the risk and the obloquy? We think not.

#### ROYAL ACADEMY.

THE great feature of the present exhibition is the quantity of excellent and painstaking work. We say "work," because the productions of the year are more remarkable for labour, patient study, and very minute manipulation, than for novelty, the grand, or even the imaginative. As the first men will not rise, they must not be annoyed or surprised if the second-rate men, by sheer care and industry, rise to their level; the only difference seems to be that the latter do not rise in all times—indeed, very rarely—to the same good place in the exhibition. Several of the Academicians are, as it has been said, "conspicuous by their absence;" but, to our mind, the absentees are not conspicuously missed, especially as many of the good men who have exhibited seem to have expected an influx of foreigners of the International Exhibition; and although they have not displayed any novelty of subject nor increased poetry in treatment, have evidently done their best in the old and beaten path. In some instances there has been a change for the better as regards colour and execution, but the ideal of English art remains in the same place it left in 1851. It does it, however, better than in many of the years past. Besides the old subjects by old favourites being better executed and rendered more perfect as works of art, we have a change in what has been generally known as pre-Raphaelite art. The walls of the Royal Academy show scarcely one instance of that abuse of the term, and even Mr. Millais seems to have been "drubbed" by critics into common-sense, and is endeavouring to paint like other people, and it would appear, has resolved to take his stand undistinguished by eccentricity, and allow his works to rest on their artistic merits; but, although we do not wish to triumph over a fallen foe, we must remark, if that be his determination, it comes rather late and unadvisedly; for, by saying he desists from painting for a few years, he has stepped over the heads of men superior to himself when he returns to legitimate art, and, from his previous experiments on the ignorance of the public, obtains more general notice for his pictures than their real merits would have obtained for them had he not been known as the leader of a certain action, and been raised into notoriety by the alarid praise and the bitter censure which that position has obtained for him. Besides which, we feel quite certain that had it not been for the shillings the controversy brought to the coffers of the Royal Academy, he never would have been honoured by being made an Associate of that respectable body,—the shilling is the great moving power with the Council of the Royal Academy, and they seem to think that the degradation of art is well purchased at the price.

As the natural course of our remarks, after several visits to the great shilling shop in Trafalgar-square, has led us to single out Mr. Millais, we will commence our brief notice for the present with his three pictures. The grand picture, as we said, is the one which is rather a model of a rational answer to several juvenile absurdities which have occupied the same place from the same pencil on former occasions. Now, if this picture was not sought out by the public on account of the painter's name, we are quite certain that it would attract very little notice, for the truth is, with the exception of the figures, it is not so better than the work of the same kind by Charles Landseer, and many parts, as regards execution, it is a great deal worse. It is entitled "The Bonhom." The story is not well told, for every critic gives a different version of it, so we will not make "confusion worse confounded" by making the attempt. "Trust Me" is his new picture of the same name, and is rather a good picture, so indefinitely made out as regards the artist's intentions, that numerous versions have been given also of this; but, thinking them all wrong, we will offer an explanation of our own. A gentleman prepared for the hunting-field holds a leather pouch in his hand, his daughter or his wife holds a letter behind her, but inclined to put it into the pouch. The fact, as we conceive it, is that she thinks he will be so engrossed in glancing to see that he will forget to call at the post-office and leave the letter, therefore she is afraid to trust him. The only merit of this picture is that Mr. Millais has been so well drubbed—there is no other term for what we mean—by painting metallic dresses instead of silk ones, as the copper dress of the lady in the foreground (we forget the name of the artist who painted the dress in the "Black Brunswicker," that at last he has condescended to tint a dark silk dress as it should be painted; but, as for the rest of the

picture, it is remarkably feeble. We may observe, by the way, that the fine old English gentleman in the hunting suit is very like Sir Francis Baring, and, if we may say so, the very like of him. He bears a strong resemblance to Mrs. Millais, recently Mrs. Ruskin. The third picture is the parable of "The Woman seeking for a Piece of Money." There is nothing in this but a candle-light effect, and it would be hardly worth further notice if it were not necessary to make one remark. The artist has pretended truth labouring for by the pre-Raphaelite would have to the effect of expressing the real truth in the broad manner of the old English school; but here we have the test; the candlestick held by the woman is painted with one or two smears of the pencil, but at no distance does it give the character of the thing intended; therefore the practice of painting detail according to the pre-Raphaelite system has been found to be a failure. Why? Because their illusions are obtained by "fumbling," and do not result in characteristic expression of a general truth that at a proper distance becomes the truth itself.

It is hardly worth the space we have devoted to this part of the exhibition, but, as there are no other pre-Raphaelite productions of importance, the bubble has burst, and we therefore remind buyers of that style of art that from the first we warned them, no matter what price they gave for such pictures, they would live to turn the faces of them to the wall, and that their heirs would consign them to the lumber-room.

Now to a more pleasing occupation, mainly in praise of honest and legitimate work, the whole of the "Royal Academy." It is a study of a negro selling a toy to a child that turns away from him in alarm; but the great beauty of the picture is the facility and breadth with which the black man is painted, and the patient expression of endurance of infantile disgust and alarm which, no doubt, he is well accustomed to. The mother and child are well drawn and painted, but the lights on them are so much enforced as to give them the disagreeable appearance of being in a violent state of perspiration. The landscapes by Crewel are very fine this year. "The Half-way House" is, in our opinion, the finest of them all. Mr. Bottomley has had a share in this production, and therefore we conclude that the team of horses comes from his pencil. Besides the subdued tone which pervades this picture—no positive colour appearing to mar the general effect—we admire the fine semicircular line of composition commencing with the man seated on the right reading the newspaper, carried along the ground and the horses, terminating in the old mill, and the old mill and the horses, is supported by a dog running after geese, which again compose with the aforesaid old woman. Across, and just above the horizon, is a fine bank of clouds, giving fulness to the foreground subject, and confining the eye to the interesting part of the picture. The white local colour of the geese is very good, and the mode the artist has made the sky contrasting with the breadth of half-tint in which the rest of the foreground is subdued. All Mr. Stanfield's pictures are excellent this year, as are those by Mr. Roberts. The Linnets, without abandoning those striking effects in which they delight, are sobered down to more rational combinations and better rendered.

Mr. Andell has quitted Spain and returned to the Highlands. In his picture of "Dunstaffnage Castle in the Distance" he gets a great breadth of light from the dust thrown up by a flock of sheep travelling away from the spectator, but we think he has disturbed that effect by bringing the group on the bridge so distinctly off from the sky background. All the boulders bridge, which implies more the expedition of the manufacturer than the true feeling for art. His other picture is entitled "Excelsior," and gives him an opportunity of painting some Mount St. Bernard dogs, which he has done with less hardness of touch than usual. As regards the other pictures, we think, are less mannered than many we have seen for some years past. "How Bianco Capello sought to poison his Brother-in-Law the Cardinal de Medicis," from the history of Florence. There is much taste and composure in the face of the Cardinal, who has detected the attempt to poison him; the husband is also well executed, but the lady herself, in her facial expression, would do much better for aphantasmagoria than a picture; it is this exaggeration and some mediocrity feeling that spoils what would otherwise be a good picture. It is by V. C. Prinsep. Mr. Leighton has made an advance this year, which is fully justified by the noble manner he has attained in painting "The Virgin." It is a very elegant subject in the great room, entitled "Odalisque." It is an Oriental female leaning over a swan. The figure is very graceful, and the swan's feathers, which are erected, are, as examples of facile and certain execution, masterpieces of art. The only objection we have to the arrangement is, that the figure is too much in the foreground, and the swan is too much in the background, but, setting aside that technical oversight, it is a picture of great beauty and interest. The other picture in the same room is "Bethlehem," although elegantly composed we do not like so well. The lines of the drapery are too like the flat and edgy folds of the Elgin marbles, having sameness in touch, although well varied in form. Near to this hangs a fine picture by Hubert; it is an extensive landscape and contains a picture of a man labouring the land. The artist has given it an atmosphere of that softness and hazy repose calculated to excite the religious sentiment. It repre-

sents the monks of St. Bernard's Abbey, Leicestershire, gathering the harvest of 1861; the boys in the adjoining field are from the reformatory, under the care of these religious people. It is, although minute in treatment for its size, painted with the feeling of an artist.

We must congratulate Mr. Cope on an improvement in his style of painting, for he has quit the coarse, unfeeling, and absurd method which belonged to the pre-Raffaellite fashion for a more modern and less mannered style; although, in minor parts, it may be still discovered in his picture of "Two Mothers," furnishing as many compartments in one frame. The subject is, or the subjects are, taken from Proverbs xxxi. The one mother "looketh well to the ways of her household. Her children arise up and call her blessed." The other is a contrast to this; she is idle, handsome, and vain, caring little for her children, while the occupant of the other division of the picture is teaching her children, while she herself plies her needle. The colouring is more rich and harmonious than we have seen by this artist for some years. We must not forget a fine picture by Frederick Goodall. To think that such a painter as this should be no more academic distinction after his name than Mr. Millais has! They may be both Associates of the Royal Academy, but they cannot associate as artists in the interchange of painter-like thoughts and feelings—supposing them equally honest in their practice. However, the title of Mr. Goodall's picture is "The Return of a Pilgrim from Mecca; his Turke-beaver distributing Alms to the Poor of Cairo." The subject is taken from Lane's "Modern Egyptians." The picture has scarcely a sufficient general interest to induce an appreciation of the labour, skill, and character which it represents; but the effect is fine, the execution admirable, and the story, such as it is, well told.

There is some merit due to the Academicians for having accepted and hung a picture by Mr. Hargrave. The "Widow Hargrave selling her Husband's Engravings," is a very well painted picture, but it appeared as it was twenty years after his death, totally destitute, and it was not until the King's George III. recommended the Council of the Academy to do something for her that they voted her the liberal allowance of £40 a year. How much does the public know of half their works, and who does not know Hargrave's? See the groups before that at the International Exhibition. What a pity it is that fame so frequently does not come to remunerate the artist so late. "The Searching for the Will" is a picture, if it had been painted and exhibited when Wilkie's domestic subjects had possession of the town and excited general interest, would have made the fortune of the painter; but, as it is, it scarcely attracts the attention it deserves. It is, however, a very clever composition, and the artist has shown skill, taste, and feeling and, as a point of composition, connects him with their proceedings. The rest of this excellent picture is filled up with visitors, who by gestures express their doubts and fears of the result. In the same room is a large and well-studied picture representing the painful scene of women, friends, and children, assembled round a pit's mouth after an explosion in a mine below. The incidents here represented are so natural that it would seem greatly, if not entirely, taken from the reality. The title of "Unaccredited Heroes" alludes to the man whose wife is taking leave of him, about to descend to assist the unfortunate underground, and to others who are exerting themselves in various ways. There is a great deal of vigorous and appropriate execution in this work, but the artist has been rather remiss in painting a little girl seated on the ground playing with some pieces of coal, with which she has blacked her face. It is too serious a subject for excesses of that kind, which tend to produce a comic effect, entirely out of place, and is one of those straining for effect, forcing so and distorting of puerile conceits, which we have in these columns so frequently and, as we believe, with success, commented on. Mr. Bond, the painter of this picture, will keep to the first general idea, and do nothing but support that, he may attain a good position in art.

There are a great many pictures deserving of notice to which we may return, but the sculpture, beyond several good busts, is not so good as last year in important subjects.

#### LONDON PAINTERS' MEMORIAL.

THE following memorial, unanimously agreed to at a public meeting called by the Amalgamated Association of the Artists and Painters of London, has been sent to the employers of painters in Great Britain:—

Your memorialists have long felt the grievance of not being paid the same rate of wages as the skilled workmen in other branches of the building trade. Whilst admitting the skill required for them to execute their work, they also claim compensation for the labour skill required to so apply colour for decorative purposes that it will obtain the expression and perfection for the whole of the work when completed.

Your memorialists respectfully submit, however, their consideration the dangers to which we are so often exposed. The unsociality, nature of our trade—the reports of medical men and the suffering we suffer from the ill-effects of their branches are not liable, much as we are and are paralysed, and the immortality of our work—no so well known that it only requires alluding to to be confirmed.

Your memorialists therefore submit a guarantee that all who belong to this society are skilled workmen. They are united in the hope that by just and impartial conduct on all occasions transactions they will obtain the respect and goodwill of all concerned. They therefore trust that this memorial will be favourably received by the employers of painters, and that the employers of London will grant the boon of paying us the same rate of wages as the other skilled workmen, viz. Five shillings and sixpence for our working-day.

By order of the Executive Committee, W. CHAMMART, General Secretary.

#### GOthic ART IN THE INTERNATIONAL EXHIBITION.

IN our last number we noticed briefly the Architectural Gallery, and stated how rich the display of its products by the most eminent architects for some years past. Many drawings have, of course, been already exhibited at the Academy and in Conduit-street, but we shall all be glad of so excellent an opportunity of reconsidering them and refreshing our recollections. So varied and so great is the number, that it is most embarrassing to know at what point to commence a notice which it is most easy to carry on, from time to time, in our columns. We could have wished, indeed, to have had our labours simplified by an arrangement of the designs in the two general divisions of Classic and Gothic. Probably, the difficulties of selection were too great, or the time allowed inadequate. We propose, then, to take up for ourselves the one style from the other, and for the moment we lift up the Gothic division.

Beginning in the furthest room, we find on tables along the centre several models. Amongst these, conspicuous from its size, is Lincoln Master (2145), modelled in cork to a quarter scale. This is the production of a labouring man, J. H. Anderson, of Braeburn, near Lincoln, and has occupied the whole of his leisure since 1851 till within the last few months. The details are stated to be executed "from his mind's eye, without plates, model, or measurement." The early portions were done at his own home, but Mr. Vickers, builder, of Lincoln, allowed Anderson subsequently to work on his premises, in order to be near the edifice. The toil of many years being at length completed, a subscription was got up for Anderson by some of the local gentlemen, and through their aid the model has been forwarded to the Exhibition. Shown with it are some eight or nine old corks of bottles, a file, and three ordinary tools, which are mentioned as instances of the meanness of the modeler. The same exertion applied to his own calling would have saved the man from the ekeonomy subscription set on foot for him. He has a large family, and nothing to depend on but his own labour, and we cannot help thinking that if he had expended on his proper employment—of which, by the way, we are left in ignorance—half this energy, and perseverance here shown he would have been in a very different position from that which he now holds as the result of ten or eleven years' enting up of old corks. As a model in such a material we admit that the work is creditably executed. The interior arcades are shown as well as the exterior, with its boundary railing and chapter-house, and the windows are even filled with representations of painted glass. We are forced to think this model was made by a man who was familiar with the building, and partly because this is the sort of thing that always impresses general visitors. It was an apter person, and one who gauged pretty accurately the public mind, that thought of showing the knives and the corks, which would have been used if they had been required. There is in it evidently a virtue in the tools employed, and in the material. We are told that the most exact of a ship and the sight of the knife that did it all. Some one else thinks it essential to press this point in a model of Christ's Church, Ealing (2141), which (we are kindly informed) is "constructed in Bristol card-board with a penknife, from perspective drawings by the architect." Curiously enough the modeler is a dentist, and he announces that he gave the art by his instrument.

Salisbury Cathedral (2136) is shown according to the original design, without tower and spire. Mr. J. B. Robinson exhibits a small stone model (2139) of an ugly monument erected to the memory of the Rev. J. G. Pike, founder of the Baptist Missionary Society. Octagon-shaped, the sides having Pointed arches enclosing trefoiled panels, it mounts into a spiral tower, and looks like a miniature tower, which has settled down, to the willy-nilly state, into the two square steps on which it stands.

Turning now to the walls, we find (1872) a frame of four—Mr. F. Nesfield's—clever pencil sketches from France. One of them is the tympanum of the great doorway of Chartres Cathedral. From Mr. Nesfield's former appearances at the Architectural Exhibition we are aware of the enthusiasm which he feels for Medieval art. His spirited pen-and-ink drawings have been, we believe, hitherto unnoticed, and his sketches are of a nature to excite interest, and to excite interest, which train a young architect in the way of patience and of hope deferred. Here (1873) we have the interior of the great hall about to be erected at Combe Abbey, near Coventry, the seat of the Earl of Craven. The mansion, although chiefly erected by Lord Harrington, in the reign of James I., stands on the site of a religious house founded in 1350 for Cistercian monks, and dedicated to the Virgin Mary. The fact is, perhaps, Mr. Nesfield's motive for his treatment of the subject, which fits in with his partiality for the early style. We are shown a thoroughly English hall of Early Pointed character. Enclosed by an arch, springing from short massive nook shafts, is the end window of four lights, each couplet of lozenges contained within an arch filled in with a quadrant of a circle. The side windows are of two lights. The hall has, on one of its long sides, two fireplaces of the period, wide and open, and sloping upwards. There are shelves at the ends, projected on a single shaft. A passage runs round at the level of the window sills. On the inner wall, across the great end window, is a gallery, formed by small shafts supporting a cornice. The side-tables, cabinets, and chairs, are carved in oak; above, they show jointed masonry. The roof is of open timber, and framed with double collar, king-posts, and braces. The upper part is very well, but below, the curved braces, which are made to terminate in a straight piece above a carved figure, are not so successful. The whole design breathes the ancient spirit, and we are led to feel that the artist was not only a student of the past, but a student of the present. All the accessories are carefully drawn, and Mr. Nesfield would give at the end of the hall a painted (or tapestried) representation of the months by female figures, in breezy gar-

ments, bearing products of the various seasons, and whose names are inscribed over their heads.

Mr. Gompertz sends (1872) a good ink drawing of his florid design for a cathedral, all over pinnacles, and crowded with canopies and crockets. Mr. S. J. Nicholl's design (1879), to which the silver medal of the Society for the Encouragement of the Fine Arts was awarded, is shown in two clever pencil sketches of the exterior and interior. The latter has an ugly roof. A sketch of the decoration of this roof is left to be devoted to the lives of SS. Peter and Paul, has all the defects of lanky figures and inaccurate drawing which it is most undesirable to perpetuate, although abundant precedents are to be found in Early English painted glass. The same architect gives (1880) St. Mary's Cemetery, Kensalgreen, as first designed, an actually executed plan, but a much sobered down and reduced in size, and retains but one altar instead of four. The tower has given way to a bell-turret, and the western portal of triple arcading to a modest side porch. There was no necessity, surely, for such a doubtful feature in the western gable as a circular window cut into the arms of a large Latin cross. The dedicatory altar, to the Virgin, and the fact of the building being evidently intended for Roman Catholics' use, would have amply justified a vesica panel enshrining the Holy Mother and Child.

Mr. Irvine, with a far too facile pencil, contributes four studies of architectural and decorative designs (1877). Of these the sketch for a portion is florid German, infected with the view of interpenetration, and therefore overdone with crockets and panelling. Then there are two Germanised arm-chairs, made solid beneath the seat, and bristling, as to the backs and arms, with carving. If these chairs are intended to be sat in, a rare combination of cushions would be required to make them comfortable. Messrs. Deane and Woodward give several small pen-and-ink sketches (1871), with a plan of St. Mary's, Tatham, a large and interesting specimen of Irish ecclesiastical edifices.

Messrs. Pritchard and Seddon send a series of photographs, nine of which are devoted to the mansion at Extington Park, near Stratford-on-Avon, the seat of Evelyn Philip Shirley, Esq. M.P. for South Warwickshire. This is one of the most remarkable buildings yet achieved in Gothic. Every part of the design shows the most careful thought. Somewhat irregular in plan, the entrance front shows a *porte-cochère*, gabled on the three sides over pointed arches stayed with angle buttresses. Above these arches is a weathered niche containing an angel, who holds a shield with heraldic bearings. Right and left of the entrance is a cloistered corridor leading to the drawing-room and dining-room. The drawing-room portion projects considerably and forms a wing, terminated with a well-proportioned bay window of two stories. The building is Early Pointed style, and treated with great effect with its pinnacles, triforium arches, dog-tooth, and other characteristic ornament. The windows throughout are divided by pillars with foliated capitals, and open with sashes. The walls are coursed with stones, irregular in size, and banded at intervals with a darker stone (or marble). All these photographs will repay a careful examination. They are taken before the scaffolding has been removed, and in some instances show the masons at work. The whole of the carving is excellently and spiritedly done, and the building generally must have been a real labour of love to all concerned. The cultivated taste of the owner is to be recognised by the introduction of carved panels, and of several coats of arms, prominent among them are the two coats borne by the knightly family of Shirley. The more ancient, *Paly of six*, we notice over the garden porch, with the motto, "*Loyal je suis*." Elsewhere is the present Shirley coat (dating anterior to Richard II.), *Paly of six, a quarter ermine*, sometimes impaled with the wires' coats. A horse-shoe, the badge of Henrys, is freely used as an ornament on the square part over the alcove of the chapel, and as the centre of the cinquefoils which fill up the space formed by the intertrenching floor. In addition to these photographs there are others of sculptured panels, designed by Mr. H. H. Armistead, and containing seven subjects illustrative of events in the history of the Shirley family. One of these shows Sir Thomas Shirley's encounter with the Duke of Burgundy at the battle of Tewkesbury.

In this particular instance a certain fitness is discoverable in the employment of a style commemorative of so ancient a family. Indeed, if we are to have Gothic for domestic buildings, this design seems well suited for the purpose. It proves how absolutely necessary it was to discard the millium, which always forms the chief attempt at treating the modern Gothic. A building such as this would have been impossible in the age to which its style is referable, and yet it is a faithful rendering of all those peculiarities of detail, moulding and ornament, which form the union of grace and gravity which distinguish Early English. By the same architect, and also of early style, are designs for the new Rectory (1862), at St. Kagan's Rectory, Glamorganshire (1863); Llandough Rectory (1902) and Llandaff schools (1904). For Llandaff Cathedral are shown the pulpit and organ (1901), and edifice (1903). The latter have four seats, in the canopied heads of which occur the letters A and O, and the sacred monogram I H S, with the passion flower and other emblems.

In our notices of the Architectural Exhibition we remarked on the small scale on which Mr. Truettitt appeared. We might have supposed that he was reserving himself for South Kensington. Here, accordingly, we find him in great force, with a gigantic frame (1898) holding an *olla podrida* of works executed in thirteen counties, which are ranged alphabetically, and ingeniously enumerated on a placard in the foreground, to which a

\* The original drawings for these are to be found among the art-designs for manufacturers (1901).—Class XVIII.

† A Saracen's head, couped at the neck, proper, wreathed about the temples, or, and aureole.—Bute.

boy is putting the finishing stroke and directing the spectator's attention. We fancy that we remember in Goudall-street, from the same hand, the humorous plan of putting this important notice over other placards. Now we are able to make out the words "Great Exhibition," and "Octroon." It would be hopeless to describe within our limits the contents of the picture, and we can only touch on some looting features. Beginning on the extreme left we have a yellow brick house (and shop) at the corner of Burlington gardens, and next to the temporary chapel erected in Islington (if we remember rightly). This is shown, in section with the congregation seated. Then we run over the boy before spoken of, and tramping down some flowering plants growing gaily over graves, adorned with headstones and ironwork, we rap at the back doors of Conville, Brooks, and Smith, in Manchester. We recognise the Manchester font and cover, the Bentliff Memorial, with other works, among the structures which rise gradually on either hand up the hilly slope in the background. In the middle distance is an octagonal tower, lit in the belfry stage by single-light circular-headed windows, and covered with a spire which, in a third of its height, is cut out with two curved brackets filled in with louvres, and from that point becomes square.

#### ROYAL INSTITUTE OF BRITISH ARCHITECTS.

THE annual meeting of this body was held at the rooms, 9, Goudall-street, Regent-street, on Monday evening, WILLIAM TITE, Esq., M.P., F.R.S., the President, in the chair. At this meeting, after a ballot, the following gentlemen were declared to have been duly elected office-bearers for the ensuing year:—President, Mr. William Tite, re-elected; Vice-Presidents, Messrs. G. G. Scott, R.A., Arthur Ashpitel, and G. Jones; Honorary Treasurer, Messrs. James Bell and T. Hayter Lewis, resigned; Messrs. C. E. Hayward and P. Seddon; Honorary Secretary for Foreign Correspondence, Mr. F. C. Penrose, re-elected; Ordinary Members of Council, Messrs. E. M. Barry, J. Vergerius, R. W. Slater, G. Street, J. B. Loring, W. Burgess, T. Hayter Lewis, Wyatt Papworth, and J. L. Pearson; Treasurer, Mr. W. R. F. Langford, re-elected; Honorary Solicitor, Mr. Frederick Overy, F.S.A., F.R.S.; Queen Anne-street, Cavendish-square; Auditors, Mr. William White and Mr. William Lightfoot, in the chair. After a number of resolutions the last year were agreed to. The annual report and balance-sheet (which we shall publish hereafter) were read and adopted.

#### SHOP IN THE STRAND.

THE building, 31, Strand, of which we give an illustration on another page, is Elizabethan, of red brick, with Portland cement dressings, with a frontage to the Strand of 20 feet, and a return in Villiers-street of above 50 feet. The spandrels are filled with military and naval trophies, as expressive of the trade carried on. The building was recently erected by Mr. J. M. Macey, builder, of Milford-lane, under the direction and from the designs of Mr. John Barnett, of Verulam-buildings.

#### PROFESSOR DONALDSON ON OBELISKS AND MONOLITHS.

ON Tuesday evening, before a numerous audience, Professor DONALDSON delivered a lecture "On the Transport and Erection of Obelisks and other large Monoliths, in Ancient and Modern Times," in the Great Gallery of the Architectural Exhibition, Goudall-street, Regent-street. The chair was occupied by Mr. JAMES FRANKLAND, and the lecture was illustrated by a number of drawings, as well as models of two Egyptian obelisks, carefully prepared by Mr. Buooni, and a model of the apparatus employed for the removal, from the Seine to its pier, of an obelisk presented to French Government by the late Khedive Ali, Viceroy of Egypt. Owing to a pressure of matter we have not space this week for the whole of the talented and interesting lecture, which we are unwilling to divide into portions, but in our next shall give it at length.

#### CONVERSAZIONE OF THE SOCIETY OF ARTS.

THE first of a series of *conversazioni* was held under the auspices of the Society of Arts during the continuance of the Great International Exhibition, took place on Wednesday evening, at the South Kensington Museum. Notwithstanding the unfavourable state of the weather, there was a very numerous attendance, including a large number of foreigners.

SOCIETY FOR THE ENLARGEMENT, BUILDING, AND REPAIRING OF CHURCHES AND CHAPELS.—At the last monthly meeting of this society grants of money, amounting to £2,500, were made in aid of the following churches and chapels:—St. Andrew's, in the parish of Speldhurst, near Tonbridge-wells; St. Paul, Clerkenwell; St. Paul's, Stratford; St. Mary, Mohun, near Torquay; and Wateride, in the parish of Chesham, Bucks.; rebuilding the churches at Cowbit, near Spalding; Hunstanton, near Bocking, Essex; and Monkton, near Haverhill; and towards the cost of increasing the accommodation in the churches at Charlsworth, Manchester; Llandough, near Cowbridge; Long Burky, near Rugby; and Neven, near Newport, Pembrokeshire; and the grants formerly made towards building the church at Ryker, near Newcastle-upon-Tyne, and towards restoring the churches at Conle St. Nicholas, near Chard, Oxford; near Walscomb, and Tetney, near Grimsby, were increased. The society accepted trust or repairs funds for the churches of St. Paul Broadfields, in the parish of Bradford; Whitley, in the parish of Kelington, Yorkshire; and All Saints' Church, Charlstock, Somerset. It was announced that, since the last meeting, the sum of £1,854 had been received as the legacy of the late Miss Mapletot, £500 as that of Thomas Barley, Esq., of Cheltenham, and £14,000 from John de la Hay, Esq., of which latter amount one-third is to be reserved to the building and repairing of churches in the county of Devon. Other donations have also been recently received.

## MR. FRITH'S "RAILWAY STATION."

HAVING, in a former number, given a description of the leading parts of this picture, as regards what may be called the story, we propose, as it will doubtless attract a great deal of public attention, to make a few observations on its artistic merit, and the rank it should take in art.

It is not with the intention of being over critical, or for the purpose of giving a discussion, that we call this picture painting, and not a painting. That it is a painting no one can deny; but that it is a picture, we, among others, may dispute. A picture, in the strict sense of the word—that is, in an artistic sense—is the representation of an event at a chosen moment by the painter, as momentarily to be perceived at the first glance by the spectator. Now, as there are usually one hundred persons in the painting of the "Railway Station," all differently occupied, it is clear that, although all their actions, and the events in which they are engaged, could take place at the same moment, it is as clearly impossible that the spectator of either the scene or the painting could so distinctly perceive them all at a single and a momentary glance. Therefore, we think it right to explain that this work is not a picture, but a painting, and to state that it takes a peculiar position in the classification of works of art. It also belongs to a class of art for which we have no convenient or expressive name. The general success of such productions might suggest the word "popular," which, upon the whole, is, perhaps, preferable to the vague word *genre* used by French critics. For this is not an ordinary subject, as it is not being painted before—but although all the incidents are either of frequent or of occasional occurrence; therefore, as we have in art the accepted term of "social life," probably that of "every-day life" would answer the purpose. There is, we have observed, an inclination to cavil at the choice of subject, and to consider it unworthy of the great amount of labour, taste and skill which have been bestowed upon it. We, however, think that while a painter does not shock the feelings or violate morality, he is at perfect liberty to paint any subject whatsoever that he feels may be made available for pictorial representation. When, therefore, an artist, who is perfectly conversant with his history, tradition of thought and within the range of his executive powers, it is almost unnecessary to assume that it will prove to be more successful than if he indulged in subjects far above the highest conception of his mind, and as far beyond the scope of his delineative skill. That the subject of the "Railway Station" is perfectly congenial to Mr. Frith's talents, we may safely conclude from his success in its execution, and the similar success which attended his "Ramsgate Sands," and his more recent painting of the "Derby Day." All these paintings have given harmless pleasure, and will continue to do so to thousands for years to come; they are a perfectly legitimate occupation for a talented painter, as they are painted upon perfectly legitimate principles, we can discover no reasonable ground of complaint against the choice of subject, nor of regret that the genius of the artist has not induced him to starve upon grand historical illustrations, sacred or profane, and to find comfort in public neglect. Much more it is to point to the "Railway Station" in the highest perfection of the nature of the subject will admit, than to degrade, if not profane, sacred subjects for the mere purpose of astonishing gaping crowds, and with the sole aim at the exact imitation of archaeological curiosities. Besides which, while the desecration of a religious event may rank in art above one of every-day life, the latter may have a moral advantage of which the former cannot boast. In the two last paintings by Mr. Frith we have warnings for evil-doers; in the "Derby Day" there are the results of gaming and debauchery; and in the "Railway Station," besides some of the affections and sentiments of life, we are shown the haggard and careworn forms, wild and dangerous wanderers, seized at the very moment he thought his escape secure; and we see the consequences of low company and irregular living in the nodding and unfeeling son enlisted for a soldier, upon whose shoulder his widowed mother weeps. If, therefore, the moral lesson such incidents inculcate be duly appreciated, the paintings of this kind much surpass in value and range than when considered merely as objects for public amusement.

With respect to the treatment of such subjects as we have endeavoured to explain, although it is possible all the events represented might take place at the same moment, it is quite impossible that a spectator would perceive them all at that identical moment, either in the reality or on the canvas. As the painting is intended to be seen at a distance, the upper and lower part of the visual circle would extend far beyond the top and bottom of the frame before the whole subject could be brought within its circumference, the spectator must consequently take his stand too far off to see either distinctly the figures or clearly understand their actions. It places the necessity of carrying the eye to the distance, in detail, is not only every group but of every figure in each group. Thus, being brought closely to the subject, it is absolutely essential that each object should be perfectly executed, and hence finish and detail, which would be out of place and in bad taste if found in a picture to be seen at a distance, and at a single glance, are considered as indispensable in a work as extensive as "The Railway Station." That being undoubtedly so, the next question arises as to how that exact representation has been executed; that is to say, whether the objects are painted with so free and perfect a hand that the resemblance is more apparent than the labour which produced it, or whether the resemblance is so exact, that it does not show inefficient effort; whether the features have the true expression and probable motion; and whether the figures act, their dresses set and blend with the whole, so as not to stand stiffly from the rest, and not in any instance to remind the spectator of either labour, study, or the figures. In all and in every respect Mr. Frith's "Railway Station" is perfectly satisfactory.

As it is not pretended that unity of impression is the leading characteristic of the composition, but, on the contrary, its adopted principle is detached groups of figures engaged in the expression and manifestation of different feelings and sentiments, each group entirely apart from the others and the bond of union which binds the whole arrangement together and gives a single purpose to all the persons assembled on the platform of the railway, is the supposition that some of them are about to start by the same train, and those who do not intend to do so are busily engaged in preparing to expedite that departure, it follows that each division of the painting, which includes several groups, may be very conveniently described as a separate form.

Mr. Frith has displayed much judgment in selecting a high and wide arch of the station beneath which to place his most numerous assemblage of persons. This enables him to give importance to the nearly central portion of the composition, arrests the eye, carrying it upwards, and thus prevents it from being too sensible of the long lines of the train and the roofing of the building. Henceforth, the most elevated part of the station, are—a foreigner, with his wife, disporting the cabman's fan; the father and mother with their boys going to school; the porter collecting the luggage from the pavement; behind whom are the sailors going to join their ships; the recruiting sergeant holding up his little child, with the recruits standing around him; above these are the railway porters, one loading up luggage on the roof of the train; another, who receives it on the roof of the train; floats, in small clouds, the steam from the safety-valve of the engine; and above all is seen part of the sky-light, which, unconsciously to the ordinary spectator, but most skilfully and effectually, not only carries the eye to the apex of the group and keeps it from wandering too readily towards the extremities of the subject, but actually connects the top of the painting with the carpet-bag and the other luggage nearly touching the frame at the bottom of the canvas. This central arrangement is well sustained by the strong contrasts of light and shade, and the richest portions of vivid colours being placed on the foreground of this large group. The height of this part of the composition being thus obtained, the relief and solidity towards the base of this artistic pyramid are effected by the black silk cloak of the woman attending to her hand-boxes being brought in strong opposition to the pure white of the shawl worn by the mother stooping to kiss her boy going to school, and the white of the group getting into the carriage, and the white of the mass of white produced by the light dresses of the wedding party. The white dresses of the wedding party receive point and contrast from the little boy consoling his weeping sister, wearing a velvet dress of rich and dark green, while relief is provided by the warm neutral tones of the railway porter's head. This group is separated from the next adjacent incident in the composition by the deep and warm-toned dresses of the detectives, who arrest the supposed forger as he steps into a carriage, whose vivid face—something whiter than his light drag overcoat—attracts the attention towards that side of the painting, and the sombre tones of the carriage door, which marriage door is ajar, and the white of the frame, too severely against the edge of the frame, and directs the eye to the prisoner's unhappy wife, who has seen the arrest and has risen to follow her husband as far as the indulgence of the detectives will allow. It is on this part of the picture that the artist has bestowed the most effective combination of facial contrasts, and very properly so, because it is on the spot that the most pathetic and moral part of the subject is developed. The haggard and careworn visage of the criminal, seized and brought to justice, when, a minute or two later, would have, perhaps, enabled him to reach a foreign clime, and live in such peace as constant anxiety and remorse uncertainty would permit him to enjoy. The stricken face of this man is turned towards the complacent and blandly smiling detectives, one of whom lays his hand on the culprit's shoulder, whilst the other produces the handcuffs to secure his arms. The terror and cadaverous face of the arrested man will further contrast with the pale and unexcited face of the gentlemanly man, and behind it, who is comfortably seated, and intently occupied with his morning paper, between whom and the motionless attitude and official composure of the guard holding the door open on the other side is placed the weeping and terrified wife. There may be no great novelty in the event here depicted, but it is a powerful illustration of the fact, which we have read in the newspapers; but, while contemplating the scene, we experienced a strange feeling excited in our minds which seemed to invest it with a kind of dread, in comparison between the remarkably nice and well made clothes, the brightly-shining new hats, and the healthy, composed, smiling faces of the detectives and the terrified and cadaverous faces of the man being executed, and the awful consequences with which it may be terminated. There is something impressively painful in seeing for the first time that the catching of criminals is so profitable as to enable men to make so respectable an appearance, and to think that their success in the dependence upon placing their fellow creatures in a prison, the only outlet from whence would be perhaps to perish on the scaffold.

Passing to the other side of the centre group, the interest subsides more into common-place. There is the hot and fussy woman, who is always fancying herself too late, impeded by a railway porter, wheeling an immense quantity of luggage; a single man in a bowing-roil and a cane, assisted by a porter, and a young man in a bowing-roil and a cane, a game-keeper coupling a brace of setters previously to their being placed in the dog van; and, finally, an old lady and her daughter endeavouring to save their little pet poodle from the rough usage it is likely to meet with among the rest of the dogs by being allowed to take it with them. We seem to see our own kindred in the scene, and we are glad to see that our kindred, and must obey them, mum." Some regret has been expressed that the colouring of



the roof of the station by Mr. Owen Jones no longer remains. We, for our part, after reconsideration, are well pleased that it has been removed, or the artist might have had still greater difficulty to contend against than he has had. The warm neutral tint which now pervades the upper portion of the building is admirably calculated to prevent the eyes from being attracted away, and confines attention to the platform and the train.

Of the colouring we may briefly state that it is arranged with the same skill and learning that distinguishes the arrangement of the groups, and the execution is bold, free, and equally sustained throughout. For the most part, the exception of the red and blue of the dogs are pencilled on the extreme left; but, as Mr. Frith is not a professed painter of animals, the exception of unfinished is just enough to prove the rule of perfect elaboration. In all other respects it will, in little or no degree, detract from the well-established fame of the artist. For the sake of giving an instance of the freedom and fluency of execution, combined with close imitation of texture, we will direct attention to the painting and gradation of tint, as well as to the exact resemblance to the reality, of the lady's slaw in the foreground, stooping to kiss her son before he leaves for school; and as to harmony of colour, the bronze tone of her silk dress forms an excellent combination with, and contrast to, the colour of the snow. This painting, in the branch of art to which it legitimately belongs, is a perfect success, and will prove an equally successful speculation.

#### PROGRESS OF THE METROPOLITAN MAIN DRAINAGE WORKS.

At the last meeting of the Metropolitan Board of Works, held at the offices, A Spring-garden, on Friday, Mr. BAKER, Esq., Engineer-in-Chief of the Board, reported that during the spring of the year it is always difficult to obtain a sufficient supply of good bricks, and more particularly so when the season is wet, as the old stock is nearly exhausted and the new bricks have not come into the market. The Main Drainage works have to some extent been retarded during the past month from this cause, although on the whole the progress made is tolerably satisfactory. The works, under Mr. Furze's contract, for the Northern Outfall Sewer are still conducted with great energy, and progress is made at that any of the other contracts. The works on the River Lea, the North Woolwich, and the London, Tilbury, and Southend railways are being tested, fitted and riveted, and the ironwork for all the other bridges is now gathered on the ground. The works on the London and Tilbury Railway, and the tunnel under the Eastern Counties Railway embankment progress satisfactorily. The concrete embankment is completed for about three-fourths of the entire length of the sewer, and about 3,800 feet of the arching or aqueduct of the main drain have been completed. The works on the River Lea, up to the present time is about £257,000, so that the contract is now nearly half completed. Messrs. Huxley and Co. have been much retarded in the execution of the Middle-level Sewer contract, by the necessity for stopping the water of the Oxford-street during the summer months, and the consequent diversion of the traffic through Liguorod-street and the King's-road, &c., which form the line of the intended sewer, and further by the want of a diversion of the water of the main sewer to enable them to proceed with the works in the Upper-road, between Albion-street and the Grand Junction-road. This diversion has, however, now been effected. About 6 miles 400 feet of sewer, varying in size from 4 ft. 6 in. by 3 ft. 10 in. to 9 ft. 6 in. has been completed, and an additional 2,000 feet of sewer has been ordered at the junction of the Ranelagh Storm Overflow with the Middle-level sewer in the Upper-road are being pushed forward as rapidly as possible, with a view to immediately re-open the main road. The value of the work done under this contract is about £28,000. In Mr. Webster's contract for the Southern Outfall Sewer about 700 feet of sewer only remain to be finished, and the value of the work executed amounts to about £280,000. The Southern High-level Sewer works progress slowly; the cost of the Sulphur is about £150,000, and the bulk of sewer remains to be executed. Mr. Pearson's completed about 1,480 feet of the Southern High-level Extension Sewer, at an estimated value of £2,154. Messrs. Aird and Son are making good progress with the Deptford Pumping-station, and are ready for the reception of the water. The sewer which will be delivered by Messrs. Slaughter and Co. is the cause of the ensuing month. The value of the work executed by Messrs. Aird is £73,000. Mr. Doxey is progressing with the Southark new street, and has completed about 2,000 square yards of paving, 900 feet of sewer, and 3 feet 9 inches by 2 feet 6 inches sewer, and 103 vaults, at an estimated cost of £10,800.

**THE HOLY SEPULCHRE.**—The *Monde* publishes a letter from Jerusalem of the 27th March, in which, referring to some observations previously made on the dilapidated condition of the church of the Church of the Holy Sepulchre, it states that on the occasion of an accident which had happened to a pilgrim from the fall of a portion of the ceiling, it has reason to believe that the Calist of the church has called the attention of the Sultan to the state of the church, and may have been the steps taken at Constantinople. It is certain that the Governor of Palestine has lately received instructions from the Ottoman Minister to take measures to prevent accidents to pilgrims in their visits to the church. An examination of the sepulchre has consequently taken place, and architects have expressed their surprise that the whole of the dome had not fallen in during the tempests of the past winter. The result of the consultation is, that the restoration of the building is declared to be a matter of urgent necessity.

**DISCOVERY OF COINAGE.**—A letter from Athens announces a discovery which has just been made by Mr. Starck, an English architect, and member of the archaeological commission sent to Greece. Researches which Mr. Starck has caused to be made at his own expense have brought to light the ancient temple of Bacchus, situated at the foot of the Acropolis. After eight days' unsuccessful labour, when all hope was abandoned, the first step of a staircase was discovered, and by degrees the whole site was laid open to a depth of five or six feet.

**WINCHESTER.**—Workmen are engaged in pulling down the College tower, which has long been in an unsatisfactory state, and has recently been shown to be dangerous. It is to be rebuilt on the same site. The tower was erected by Richard Twyford, about 1470, and is a century later in date than the chapel which it adjoins.

#### ARCHITECTURE OF PALESTINE, FROM THE EARLIEST TIMES TO THE CRUSADES.

BY JOHN HEROD.

HEROD struggled all his life long to secure the title of the Great, yet he was not, nothing more than the magnificence of the Romans, who allowed him fetters of gold. But from the country and posterity he well deserves the epithet great, in consideration of the sumptuous monuments erected by him. Little does it matter to us, in our examinations, that they were erected by a Jew, or his subjects, or that he preceded to examine the ruins. Some masses of ruins, some trunks of columns, walls, solid foundations, apsechairs, built or embellished, and the basements of towers, but no one entire edifice, nor any ornamented one. It is inadmissible that there is a single ruin in Jerusalem, or in the vicinity of the city, which is not a work of Herod. In Jerusalem we find, belonging to this glorious epoch, some portions of the wall surrounding Moriah, on the eastern and western sides; the entire plan of the construction of the Pharos; some few remains of the solid masonry of the towers of Paphlagonia; the remains of two others which still testify of the existing sub-basement of the Damascus Gate which I discovered in March, 1861; finally, the embellishments added to the sepulchre of the Valley of Jehoshaphat, to the north and south. Of all these, mention has been made by the late Herod. In Jerusalem we find, belonging to this glorious epoch, some portions of the wall surrounding Moriah, on the eastern and western sides; the entire plan of the construction of the Pharos; some few remains of the solid masonry of the towers of Paphlagonia; the remains of two others which still testify of the existing sub-basement of the Damascus Gate which I discovered in March, 1861; finally, the embellishments added to the sepulchre of the Valley of Jehoshaphat, to the north and south. Of all these, mention has been made by the late Herod. In Jerusalem we find, belonging to this glorious epoch, some portions of the wall surrounding Moriah, on the eastern and western sides; the entire plan of the construction of the Pharos; some few remains of the solid masonry of the towers of Paphlagonia; the remains of two others which still testify of the existing sub-basement of the Damascus Gate which I discovered in March, 1861; finally, the embellishments added to the sepulchre of the Valley of Jehoshaphat, to the north and south. Of all these, mention has been made by the late Herod.

It is based upon the rock, which rises 5 feet above the level of the ground, and is covered with masonry of large rusticated stones. Here I observe that Herod in his fortifications made use of a solid masonry of large rusticated stones, in Herodion, Caesarea, and at other places. The Jewish wall rises 38 feet 6 inches above the side of the fosse. Each course of stones needed by five lines from the base upwards. I would, however, remark that in the interior it is 11 feet thick, relatively to the upper level of the castrum. I have counted the stones in the tower forty cubits each side, reckoning the cubit at about 18 inches. It is then the same tower of Phazael described by the historian who tells us that Titus (Wars of the Jews vii. xi.) would have it preserved to show the kind of tower of a city which he had taken. This is an error. Some may object that Josephus mentions a cistern, and this is not to be found. But would it be possible to preserve it, in agreement with the system of fortification in use in the middle ages? I think not. In opposition to the idea that the tower was destroyed in order to gain a clear space of about 30 cubic feet, which would be valuable when soldiers required to be lodged there. It is unnecessary to draw attention to the other towers which the Damascus Gate has been discovered by the late Herod. With the exception that they are of smaller dimensions, they differ in no respect from those already described. I may, however, say that the gate which I discovered, and which I call the north gate (Josephus, Wars of the Jews, vii. xi.), is 12 feet wide and 30 feet high, and is composed of stones composing the arches and the arch are of large dimension. This discovery is so important in an architectural point of view as on account of the ancient city walls of Herod's time. It is one of the most interesting points in the city of Jerusalem, which has been the theatre of so many events, and which has been the theatre of so many events, and which has been the theatre of so many events. Not to dwell for ever upon the subject of walls, I will avoid going further into the matter here; but I will remark that the ancient portions on the eastern side of Moriah, like those of the Jewish temple, appear to have been the work of Herod. Herodion. I am far from adopting the opinion of M. de Sanley, member of the Institute of France, who believes them to be Solomonite. Their construction shows great perfection, on account of the beauty of the materials employed, the regularity of their arrangement, and the vertical joints which rest upon the middle of the corresponding stones in the lower and upper courses; nothing of which is seen nearly so admirably executed in the walls styled Solomonite. In the latter, artistic genius just developing itself is observable; in the former, genius seems to have attained its full growth.

The Golden Gate, to the east of Moriah, I judged to be Herodian from its ornaments; but I am not of that opinion. I know that the temple and its ornaments were destroyed by the Romans, and it seems to me impossible that this gate, with its ornaments, should have escaped the destruction of the temple. They of themselves, therefore, furnish proof of having been mortised in the old wall. The ornamented arches are caused with who take them to be the work of Herod. The ornaments are caused with Roman masonry. How, then, is it possible to suppose them Herodian? They are caused by the fact that the great stones of the temple were not quarried from enormous blocks. It is true that this material is Herodian, and this has led to the erroneous induction. I believe that these blocks are remaining portions of the ancient Eastern gate, and that to them may be traced the plan on which the temple was formed upon the same plan as the ancient gate. I think so because the foundation walls have been discovered, and because it is said in the Mishna that the Eastern gate was 40 cubits long and 30 cubits wide, and these are exactly its dimensions.

We will now visit the sepulchres in the neighbourhood of Jerusalem. I unhesitatingly confess that I believe the ornamentation of all of them to be of later date than their original construction, and am of opinion that it was added during the Herodian period. I might maintain that the sepulchres of the kings were formed by one of the greatest architects of the Alexandrian school, who is mentioned in the text of the Bible. I have no proof in my support of this idea? I hope M. de Sanley will not hear me, since he attributes them to the era of the kings of Judah, to which epoch it was necessary that he should trace them, whereas above the wall of the temple was a sarcophagus taken from them as that of David, in order that he might deposit it in triumph at the Louvre, in Paris. By parity of reasoning I have met with the sarcophagi of Solomon and Hezekiah, one of which is, in fact, broken into fragments, while the other serves as a receptacle for water in the Hall of Justice at Jerusalem.

Let us now examine some of the sepulchres in detail. That of Absalom is a cubical monument, measuring 31 feet on each side. Ionic columns support an entablature with corinthian capitals, and the capitals are decorated with a variety of figures, as which point the masonry. The whole of the upper part is in masonry. It is composed of a square base surmounted by a cylinder, which is terminated by a torus, representing an entablature, finished with a bouquet of flowers, and a kind of pyramid of curved columns, finished with a bouquet of flowers.

palm leaves. The total height of the monument is 53 feet. It exhibits, therefore, a mixture of the Greek and Egyptian styles.

Herod was of Idumean origin, it will be remembered. In Idumea are some monuments which recall Absalom to mind. At the north-west corner of the temple, cut in the black rock, is the tomb of Absalom, a rich and splendid monument, ornamented with acrotes and foliage. That of the Jews to the north of Jerusalem is of the same description.

The outer portion of the Sepulchre of Saint James is supported by two columns and two demi-pilasters of the order, connected by an architrave, above which is a Doric fascia, ornamented with triglyphs and surmounted by a cornice. In the Hæcclædæ, to the south of the city, a fac-simile of this is seen. The Sepulchre of Zachariah is a small, rich, each of the sides of which measures 18 feet width. It is connected with the column in the centre by two half columns inserted in a pilaster at the angles. Above is a simple architrave, surmounted by an Egyptian cornice, like that of the Sepulchre of Absalom. The whole is surmounted by a quadrangular equilateral pyramid. The total height of the monument is 10 feet. It is not far from the eastern wall, still shows the rough hewn work, and on the north it is not completely finished.

To visit the Sepulchre of the Kings, a court must be entered by a door excavated in the rock, ornamented with a simple relief in bas-relief. This is under ground up to the commencement of the arch. At the extremity of the court is a vestibule, formerly adorned in the interior with two columns, which have been destroyed partly by an earthquake and partly by violence. Above the vestibule is a niche in sculpture. The centre of the niche is ornamented with a bouquet of grapes, now sadly mutilated. On the right and left of this is a triple palm, a wreath of olive leaves and triglyphs, alternated with patera three times repeated. Above these is a garland of leaves and fruits, which droops at right angles from each side of the architrave. Above the line of the architrave the triglyphs is a cornice in a very ruined condition. Can this ornamentation have been executed at the period of the kings of Judah? I believe not; but, if I err, I am open to conviction. Would that we could find something more satisfactory than the Samaritan, Chaldean, Egyptian, Hæcclædæ, Phœnæan, and Assyrian capitals, but, excepting some columns, a few ruinous capitals, and immense accumulations of stones, nothing can be discovered of the great Hierosolymitan. I therefore turn to a more recent epoch.

#### PERIOD OF CONSTANTINE.

When the accession of Constantine the Great to the throne had secured the triumph of the Cross, Palestine witnessed a vast architectural movement, and a number of churches were erected in localities rendered celebrated by the evangelist mission of Jesus Christ. The splendour of the new edifices, which attracted the special attention of the Christian monarch and his pious mother, and here was erected a basilica, which silver, art, and precious materials combined to render worthy of their piety and magnificence. I will first describe the basilica of the Resurrection, the latter to be closed by means of the wall of the first Byzantine Emperor. It will, I think, be interesting to my readers if I give them some description of the Sepulchre of Christ, over which Constantine erected the temple. I cannot stop to consider all the objections brought against the authenticity of the present structure, but I will mention a few. The first, which I have seen. In the neighbourhood of the city, particularly on the north and east, tombs are in the rocks may still be seen. Many are in a ruinous condition, others are more perfect. They are composed of two divisions, the basilica and the sepulchre. The latter is a simple, but elegant, structure, in an elliptic form. The evangelist St. Matthew (xxvii. 60) describes an occurrence which may be witnessed in the present day in the same locality:—"And Joseph had the body in his own new tomb, which he had hewn out in the rock; he rolled a great stone to the mouth of the tomb, and sat down on it. And the sepulchre, as at present existing, is divided into two compartments; the vestibule, in which the guard of soldiers was placed, and the tomb itself, which has a small door of the same construction as those of the Sepulchres of the Kings and of St. Pelagia on the Mount of Ascension.

The religious Greeks, Armenians, and Latins, assert that the whole monument of the present sepulchre is rock beneath the marble facing. I could not discover this, nor do I believe it. Even if it witnessed the destruction which befell the city under Titus, and the circumstances of Hadrian's time, and the history of the city which was greatly mutilated by Cosroe II. in 614, and by Ilakem, Caliph of Egypt, in 1010. But I am quite certain, beyond all doubt, that I saw and entered the rock in the present, which rises at the distance of 31 feet to the west of the sepulchre, and in the sepulchre itself by the longitudo cutting which is here exhibited. It is essential to remark that all the sepulchres of antiquity are of the same length and breadth, the former 6 feet, and the latter 21 feet. In this respect the Sepulchre of Christ forms no exception to them. The disputes would never have arisen if Constantine had not erected a new sepulchre, religious vandalism of separating the sepulchre from the rock, on the western side, in order to enclose the sepulchre within the temple, and the further barbarism of adapting the sepulchre to the present use of the temple.

The present church of the Resurrection remains one of the elements of the grandeur of Constantine. They disappeared when the invasions of the Persians and Saracens covered Palestine with ruins. The successive repairs to which such portions as escaped have since been subjected have deprived the structure of the characteristics of the fourth century, and the character of the walls and the walls and pilasters of the great capitals, which are primitive. The Crusaders, who found the sanctuaries separated, reunited them; and it is their work which is now seen. From their time to the present no change of importance has taken place. On the 13th October, 1848, a fire broke out in the church, and also a portion of the south wall towards the west, were destroyed by fire. The above and unintelligent repairs of the Greeks in many points completed the devastations begun by the flames, and numbers of interesting details of Gothic or Byzantine art disappeared. The church of the Resurrection was the work of the Great. The precious marbles which ornamented the basilica of Constantine were taken by the Mussulmans in the seventh century to adorn their mosques, especially Koubbet-us-Sakhrah. Hence, among the ruins recently removed from the eastern side of the sepulchre, but long since removed, are the most beautiful marble and granite, with capitals in form precisely like the gilded capitals of the mosque. It cannot be supposed because these precious relics are found there that the remains of the mosque, which was never destroyed from the period of its creation, but long since removed, are the remains of the church in the vicinity of the south. I am, therefore, compelled to conclude that it is not in the Temple of the Resurrection, but, elsewhere, that we must seek the elements of the period of Constantine.

Let us now turn to Bethlehem. The Basilica of the Nativity at Bethlehem was begun by Saint Helena, and terminated by her son Constantine, between the years 327 and 333 of the Christian era. Some authors have attributed the erection of this monument to Justinian, but a very cursory inspection will suffice to prove that it is practically none of the character of the Justinianian era, of the sixth century, and that this opinion must consequently be erroneous. It is the oldest and best authenticated monument of Christian art in Palestine. The eye measures five naves in a single glance. The centre nave is larger than both the two together on either side of it. They are of great height, and form a series of rows of Corinthian monolithic columns, and are composed with eleven intercolumniations (*travées*). The transept is as wide as the centre nave. The north and south extremity terminate in a semicircular apse with a pediment 14 feet broad. These apses project none of the exterior of the building. On the east, on the side of the transept, separated by a wall formed by the Greeks, the five naves reappear and form the choir of the church. The centre nave is composed of two intercolumniations, and terminates in a semicircular apse, which terminates the transept. The two which succeed, on the left, are terminated by a straight wall which commences at the choir. Owing to this arrangement of the lower side of the Basilica, the upper portion of the cross is asymmetrical in relation to its lateral arms. The width of the great centre nave is 30 feet; the first lateral nave is 17 feet; the second 10; so that the total width of the five naves is 74 feet, while the entire length of the centre nave is 180.

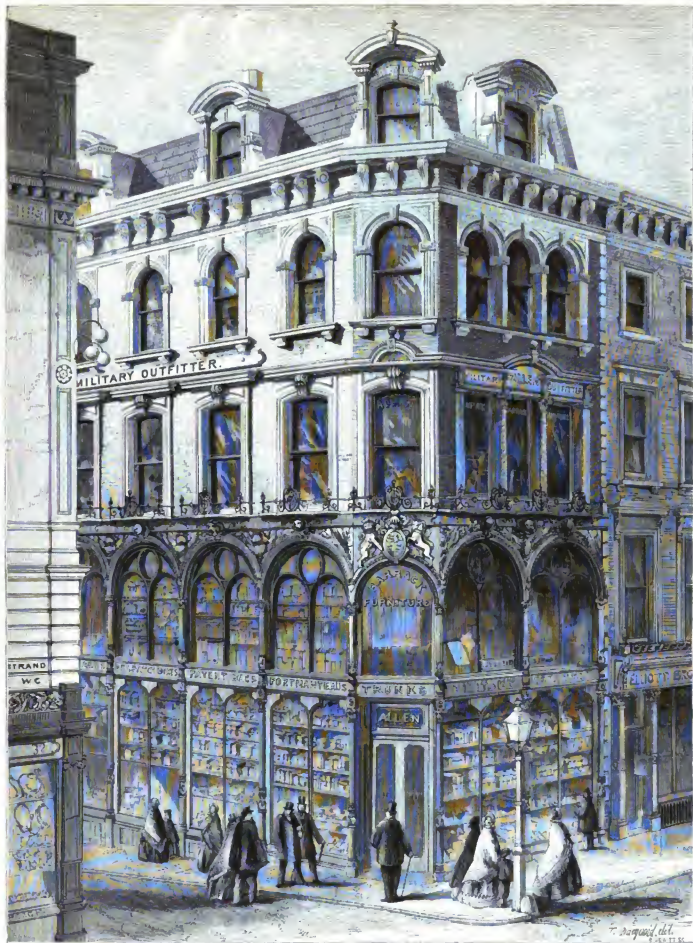
The monolithic columns forming the divisions of the naves are 17 feet 3 lines in height, and the capitals are Corinthian; that is to say, the proportion of the slightly differ from the proportions demanded by the rules generally observed in the time of the Roman Empire. In fact, the column is short relatively to the diameter of the base, which measures 2 feet 6 lines. Besides this, it presents no other peculiarity, but the architrave, which is of the same height, is supported on a pilastr, which measures 5 feet 3 lines on each side. This want of proportion has been supposed by some to have been owing to the inability of the calcareous bed from which the columns were taken to produce monoliths of great height, but the quarries still exist, and I have carefully examined them, I cannot admit the explanation; but I have the opinion that it is simply the result of the decadence of art. As I have already stated, the diameter of the base of the column is 2 feet 6 lines; the height of the shaft, comprising the base and capitals, is 17 feet; the column is, and the base is short in proportion to the former. Further, the base has no very decided character. It rises upon a rectangular plinth, measuring 3 feet 2 lines on each side. I may further add that the total number of entire column is 46, of half columns 18, and that the entire height of the columns is 17 feet 3 lines. The columns are of the same height. In the arches, all these are ornamented with crosses in relief. In the lateral nave (side aisle) the arches support the *armature* of the roof. In the central nave, the walls, which are 30 feet high, are also supported by the columns, and the arches, which are 30 feet high, are also supported by the columns, but composed entirely of wood. In the upper part the walls contain circular-headed windows, corresponding with each space between the lower columns. The spaces between the windows, and all the rest of the surface of the walls of the church, were covered with mosaics. The present roof dates from the seventh century, and the Greeks alone claim the right to repair it. I conclude then, that, this is the only complete work of Constantine which remains to us after the lapse of 1,525 years. This alone has survived every destructive influence, and it is the only monument of the Justinianian era of striking specimen of Roman genius. The venerable aspect of the edifice, the harmony of its combinations and its original conception, all arouse admiration. It is indisputable that the general plan of the church produces an impression of grandeur, and it is this grandeur which is the object of the church, because it is the embodiment of an intelligent phase of religious architecture, and thus cannot fail to satisfy the taste and please the eye.

#### PERIOD OF JUSTINIAN.

The Emperor Justinian, no less ardent than his predecessor in erecting religious edifices, did not rest the Holy Land, but there raised a great number of such structures. All, however, which remain standing as monuments of him are the basilica of St. Mary, at Jerusalem, now converted into the Mosque El-Aksa; the tower called Justinian's, at Bethlehem, and the ruins of the church of the Holy Sepulchre and of the Holy Cross, at Jerusalem. The latter are the only religious monuments were erected by this Emperor, but their localities are only indicated by heaps of ruins; the details have vanished, either from the effects of fire or violence, chiefly through Moslem fanaticism. The present remains of the Justinianian era, and the only one left us, is the detailed account of its construction (de A. Edif. Justin. N. 6). It has in front of it a portico with a vaulted roof, corresponding with the seven naves of the church. The central nave is much larger than those on either side. The portico is a very simple structure, and the whole building exhibits the well known plan of a primitive Christian basilica. The centre nave is supported by six large columns of *breccia* roses of Palestine with ordinary Corinthian capitals, somewhat disfigured by the ravages of time. On the south, the columns are supported by transverse arches, which are two rows of windows. The first two lateral naves are supported by square piers, the other four are much lower, of a totally different construction, and appear to have been added at a much later date. In this particular I fully agree with Mr. George Wilton. The "Bible of the East" that the mosque was enlarged on the east and the sides by El-Malki, in 775-785.

In its present state the length is not in due proportion with the width, while in its primitive condition the proportions were exact, and the basilica was in the form of a simple rectangle. The length of the church is 180 feet, the width 74 feet, separated from the grand longitudinal nave by pointed arches surmounted at the intersection of the cross by a cupola supported by four piers, each ornamented with two columns of verd antique supporting Corinthian capitals. The cupola is decorated with a simple mosaic, which is a good example of the Justinianian era, rated with modern paintings quite unworthy of the edifice, and with mosaics which date from Selim I. and Solymann the Magnificent. The choir was denuded by the Arabs after having been injured by an earthquake, and is now merely a wall, again decorated with a mosaic, and with a few transverse arches with beautiful small porphyry columns. In the transverse arch of the cross the choicest marbles are employed for the light columns, which sustain capitals of various and extravagant forms, dating, no doubt, from the remotest Jewish period. The roof of the mosque is supported by a framing of wood. Such is the result of my observations upon the mosque El-Aksa, which the want of time prevents me from describing in fuller detail.





SHOP, 31, STRAND.—MR. JOHN BARRETT, ARCHITECT.







[illegible][illegible][illegible][illegible][illegible]

even remembered by tradition of honorable achievements in art. Let us pass a few of them in review. There was Michael Moore, a native of Switzerland, poet-chamberlain to the Emperor, and a man of letters, who was also a painter of flowers. His profound knowledge of the human figure, was appointed keeper of the Academy. There was Mary Moore, the daughter of the above, who was a painter of flowers. There was John Hayman, a native of England, who was a painter of flowers. His capacity, wrote a stiff letter to James Barry, notifying his expulsion from the Academy for having painted a picture of a woman in a state of undress. There was John Hayman, a native of England, who was a painter of flowers. His capacity, wrote a stiff letter to James Barry, notifying his expulsion from the Academy for having painted a picture of a woman in a state of undress. There was John Hayman, a native of England, who was a painter of flowers. His capacity, wrote a stiff letter to James Barry, notifying his expulsion from the Academy for having painted a picture of a woman in a state of undress.

to make those Caricars his Majesty's, and to be called upon those [historians' names]. But, at the same time, may I not be permitted to enquire whether, if their merits were considered the standard of eligibility to the Royal Academy, the number of members might not now be increased to 100? I am not at all disposed to think that the Academy would be thereby made more liberal than it is at present, but I think it would be advantageous to the Academy itself, at a time when we find so many of its members almost past work; whilst one or two others, doubtless in conjunction with the new members, would be able to do more than the present members of the Academy, for the pecuniary gain of themselves and of the traffickers in art with them. I am not at all disposed to think that the Academy would be thereby made more liberal than it is at present, but I think it would be advantageous to the Academy itself, at a time when we find so many of its members almost past work; whilst one or two others, doubtless in conjunction with the new members, would be able to do more than the present members of the Academy, for the pecuniary gain of themselves and of the traffickers in art with them. I am not at all disposed to think that the Academy would be thereby made more liberal than it is at present, but I think it would be advantageous to the Academy itself, at a time when we find so many of its members almost past work; whilst one or two others, doubtless in conjunction with the new members, would be able to do more than the present members of the Academy, for the pecuniary gain of themselves and of the traffickers in art with them.

More important consideration is as to what the Royal Academy has done in the way of instruction in art, and whether the system upon which its teaching is given is the best that could be adopted for the purpose. I will not here go into the general question as to the efficacy of academic teaching, which has been so much discussed, and upon which Fuseli, Waagen, and other authorities have pronounced in the highest terms. I will simply beg to direct attention to the mode and amount of tuition afforded by our Academy and its fruits—what valuable principles it has established, what great artists it has produced.

With respect to the remuneration of education employed. It is an old maxim, one, indeed, established upon scriptural authority, that the labourer is worthy of his hire, and experience tells us that the value of service rendered is very generally in proportion to the amount of remuneration accorded. We all know the story of the lawyer, who, having been called in to attend a case, and having been disappointed in the result, and feeling a just and costly disappointment in the course of law, when remonstrated with on the subject by the latter, inquired, "What did you pay me for my opinion?" and being answered "Nothing," replied, "Then, that is about what it was worth!" Now, it is not exactly the same case, but it is a very near approach to it. We have a young man who expects £100 a year, and the several professors £60 for delivering six lectures in education; and the nine visitors, elected annually from amongst the academicians to attend the schools by rotation, each a month. "To set the figure, to examine the performance of

that those endowments are to be characterised as misapplied. On the contrary, few will deny that, considering the value of money, and of time, which is money at the present day, they are well applied. The endowment of the University of Oxford, for example, is a case in which students have a right to expect in return, must be of that negative character which characterises the endowment of the University of Cambridge. The endowment of the University of Cambridge is a case in which students have a right to expect in return, must be of that negative character which characterises the endowment of the University of Cambridge. The endowment of the University of Cambridge is a case in which students have a right to expect in return, must be of that negative character which characterises the endowment of the University of Cambridge.

to much for the technical element; now for the intellectual,—supposing for the moment that in our modern philosophy intellectuality be considered desirable in connection with acts of design—which, by the way, judging from actual experience, one might be very apt to consider as the least desirable of all. But, be that as it may, the very nature of the Academy there is no provision made to improve, alive, or assist the student matters ordinarily understood as entering into a liberal education; and considering that gifts have very generally been found to fall to the lot of youths who, from their position, or the circumstances of their families, have had but moderate advantages afforded them, it is not surprising that the Academy has been so generally regarded as a waste of time, the Carrocci-Paizotto system, and numerous others of the great masters







the eyes, the shade of the nose, the lower jaw, &c.; and to work on the cheeks, with flesh colour, to slip it down, and a very slight tint of brown is used. In some parts to give the requisite depth; & eyebrows are hatched upon this Venetian red, and a thin line of Venetian red goes round shaded parts and marks the details.

It is curious that at distance these faces with the green shadows are far more like life than those of the second period, where the green ground was covered over by brown in the shadows. The tint of the heads are rather more like the Venetian red, and the green ground, however, could be seen when the face was turned. They are indented with rays, and always give.

There are many more things connected with the Italian school of painting which, if time allowed me, I could dilate upon; but the real question for us in the nineteenth century is not only how did the Italian and our own masters decorate their houses, but how it is that we have not done so. I believe that in the first instance, with the architects, who may be divided into two classes, viz., those who have no taste to do so, and those who have a great deal, but who do not know how to do so. Now, nothing can be expected from the former, for they have no chance; and as to the latter, of course they are perfectly hopeless. I believe, in nine cases out of ten, could the architect feel inclined to do so, he could be made to do so by giving him a client's notion of what he intends, that he could get whatever paintings and decorations he thinks desirable. But the architect is not the only one in fault; the decorator is equally deficient—leave him to himself and what crude colours will be used—green, red, blue, bright vermilion, the most dazzling white, and, lastly, the abominable French ultra-marine, all in juxtaposition. The fact is, it is ignorant that every colour should be more or less broken up and worked into other colours; but, no, there are the drawn-finish with the usual pigments, and he sees them as he finds them. Indeed, the immense want of art-decoration becomes more apparent every day.

The architect is not the only one in fault; the decorator is equally deficient—leave him to himself and what crude colours will be used—green, red, blue, bright vermilion, the most dazzling white, and, lastly, the abominable French ultra-marine, all in juxtaposition. The fact is, it is ignorant that every colour should be more or less broken up and worked into other colours; but, no, there are the drawn-finish with the usual pigments, and he sees them as he finds them. Indeed, the immense want of art-decoration becomes more apparent every day. Can the engraver say he mingles your designs? The answer is, that he has never been taught. Follow up your question by asking why he does not take advantage of the various schools of painting, and the reply will be that he did, and got disgusted and tired of it; the real fact being that instead of spending pay at once to the figure, he has run on Dyer's outlines, and then done a deal of bad exactly like the other side. In fact, it is almost impossible to estimate the amount of damage done by that one book, published, I submit, by a most clever man, and with the best intention the authorities having forgotten the saying of another very great man, "very unpopular man—viz., Haydon, who declared that the student who can draw a head can draw a head, but the man who can draw a head cannot necessarily draw a head."

For my own part, if I were to be advanced at all in the arts, I believe it will only be by a most general teaching of the human figure to all employed in the fine arts, whether architects or artisans. It is very true that colour is a gift, but the good, but, it has inspired the genius of it in the majority of us, and if we cannot all be Giotto or Titian, at least we can do our best to improve the talents confided to us. For to whom much is given much will be expected, and it is for this reason that I cannot but deplore a very ill-used and abused man. People judge of him as an architect, and blame him accordingly. On the contrary, he is an architect, but simply a military engineer, and his training is not for a military engineer. The English artists are not so good as they are, and the fault is not his, but his employers. In the same manner, if after a proper amount of good teaching of the human figure, the English artists are not so good as they are, over the water, I give him up; but, up to the present time, he has not had it, and therefore the weight of the blame must fall upon those who neglect to teach him properly.

## Reviews.

**Wenlock Priory, Salep.** By EDWARD ROBERTS, Esq., F.S.A., F.I.B.A., &c.

A FEW months since we received a most admirable account of *Wenlock Priory, Abbey*, and have now before us the results of his investigations at the most ruined priory at Wenlock, architecturally one of the most interesting of monastic establishments, and well worthy of the trouble and time, and something more, too, which Mr. Roberts has bestowed upon it. The priory, which was founded, now extend over the greater portion of an acre of ground, while it is highly probable that other and not unimportant structures have entirely disappeared, their site being now occupied by houses. The church alone is 328 feet in length by 61 feet 3 inches in the nave, to 62 feet 4 inches in the choir, in width. Mr. Roberts's figures do not agree with those of former writers, but they have been taken from actual measurement on the spot, and we have reason to believe that they are correct. The church is cruciform, with aisles to the nave and choir.

Entering the place where formerly was the great west door, we come upon one of the grandest architectural effects in the county: on the left are the ruined bases of seven large pillars, forming eight bays, and on the right of the corresponding portion of the east end, three bays by main shafts, and nearly the full height of the former structure; over the portion of the south aisle thus preserved there is a vaulted room (a drawing of it is given) of singular interest and admirable design; the purpose of the room is doubtful, and the only conclusion arrived at is, that it was a public hall, or a place for some service. It may, however, says Mr. Roberts, have been the monks' parlour, as there was a distinct stair from the cloister, and stone seats.

The chapter-house contains one of the finest examples of interlacing arches in the kingdom; each side is divided into three bays by main shafts and vault ribs, grouped six together; the bays being each subdivided into five bays with three tiers of arches. There is a wonderful variety in the designs of the Norman examples, and in the variety of the interlacing, though the same design is found repeated in another part of the arching. The remains of what must have been the infirmary is now used as a cow-house; about the walls are a few remnants of the old Norman work.

Mr. Roberts's account gives a full description of the buildings, so far as they can be traced; a view, as before mentioned, of the room over the south aisle, a section of the chapter-house, together with five lesser subjects, none of which, a base stone with incised lines, I, perhaps, a unique example as regards the subject of ancient architectural drawing.

**Tables for the Purchasing of Estates, Freehold, Copyhold, or Leasehold, Annuitants, Advertisements, &c., and for Renting of Leases, &c., &c.** By WILLIAM LUDWIG, Architect. With considerable additions by Mr. Fodor Thomas, Secretary to the Edition.

**The Land Valuer's Best Assistant, by Tables on an Improved Plan for Calculating the Value of Estates.** By R. HUDSON. A new edition with additions and corrections.

WE are frequently asked to point out works for the guidance of those engaged in the valuation of estates, leases, and lands, and may here answer, or refer to a source where they will be found answers to many questions on the subject for correspondence, by Mr. Fodor Thomas, Secretary to the Edition, Messrs. Lockwood and Co., Stationers' Hall-court. Ludlow's book is well known as a

reliable authority; the present edition contains many additional tables, of use to all who may be employed in the valuation of estates. Mr. Hudson's book will be found to lead to a very considerable saving of time.

**Thebes: its Tombs and their Treasures, Ancient and Present, including a Record of Excavations in the Necropolis.** By A. LERNER RHIND, F.R.S., &c.

WE regret that the demands on our space will not allow us at present to do more than commend this work to the notice of our readers. The accomplished author gives the results of excavations which he made at Thebes, and a precise account of a large family tomb of an official personage, which a long, and at times, most discouraging search brought to light in an undisturbed condition. It is part of the plan of the work that "the various details of the tomb, which are of great interest, and which are of great value to the student of Thebes, be made known by means of which, Egyptian relics have been procured. Thebes has, therefore, been treated of introductively as the ancient capital, but chiefly as the central source, which have been archaeologically so productive."

The work makes a handsome volume, and its contents are a valuable contribution towards the illustration of Egyptian art. It was reached after penetrating through two distinct passages 125 feet in length, and was approachable only by a shaft 20 feet deep, in which hung cords by means of which the tenants of the tomb had been lowered to their resting-place above ground. It was in the outer passage leading to the tomb, which is the most important investigation, and which is of great value to the student of Thebes, that a funeral canopy of wood, brightly painted, and in perfect preservation. Representations of such canopies had been seen by the author, but he believes that there is no evidence of any actual example having before been met with. The work makes a handsome volume, and its contents are a valuable contribution towards the illustration of Egyptian art.

## Correspondence.

### BIRMINGHAM FREE LIBRARY.

SIR,—As the statements contained in the letter of Mr. E. M. Barry, which appears in the BUILDING NEWS of Friday last, are not in accordance with the facts, and really, at most, of a misquoting, and which is a misquoting of the Free Libraries' Committee have invited, I beg to request you will insert in your ensuing number the following observations in reply.

In 1855 the Council of the Birmingham and Midland Institute commenced the erection of a suitable building of accommodation for their body, in accordance with designs prepared by Mr. E. M. Barry. A portion of the building having been completed, the Council of the Institute were, through exhaustion of their funds, compelled to suspend the further progress of the work, and to postpone the completion of the building. Five years afterwards the Corporation of the borough being in quest of a site for their proposed Free Libraries, the land unbuilt upon adjoining the Institute was offered for that purpose by the Council of the Institute, upon condition that the building, as a gratuity of design, that the Library should be erected in uniformity with the building. The Town Council did not accept the transfer of the land until plans had been obtained, and an estimate of the cost of the building had been laid before them. The amount was estimated by him to be £16,500. The Town Council being satisfied with the extent of the accommodation and the cost, accepted the transfer of the land.

Mr. Barry's charges "for attending upon the Libraries' Committee for two sets of designs prepared in accordance with instructions received, and a further set of drawings prepared for the purpose of being submitted to the Town Council, and his travelling expenses," amounting to £45, were paid by the Corporation, and the terms upon which he undertook the erection of the building were arranged.

Builders were invited, by advertisement, to compete; and, on the tenders being opened, the lowest was found to be £17,000, and the highest £20,000. Mr. Barry was then requested by the Free Libraries' Committee to report, in detail, the cost of the erection of certain portions of the building, and what alterations might be made to effect a reduction in the cost; whereupon Mr. Barry attended the Committee, and submitted his estimate, and the Committee, in view of his willingness to abandon all professional charges in the event of the Town Council refusing to vote the additional sum required to carry out his plan. Several modifications for reducing the cost of the building were suggested by that gentleman, and on the 11th November last the Committee resolved, in answer to the report, in which he stated that, provided the gallery of art and cellars were omitted and certain alterations suggested by him adopted, the remainder of the building might be erected for £12,350—this sum being still considered in excess of the amount of his original estimate for the building. The Committee again applied to Mr. Barry to revise his designs, so as to obtain a further reduction, if possible, in the cost of the building, and also to report if, by any re-arrangement of the plans altogether, the required sum could be obtained. Mr. Barry, in reply, submitted his estimate; to which Mr. Barry replied that "he could make no alteration or arrangement which would effect a greater saving in the cost than as before detailed."

As the alterations and omissions proposed by Mr. Barry involved the abandonment of a most important feature of the scheme approved by the Council, it became the duty of the Libraries' Committee to bring the whole subject before the Town Council and to ask for further instructions, which they did in a report presented at the meeting held on the 4th day of March last, in which they stated that it was desirable to make an effort to obtain the erection of the whole of the buildings for the sum already voted for that purpose, invited architects to forward new plans, specifications, and estimates.

Mr. Barry was then offered to prepare new plans to suit the financial exigencies of the case. So far from this being the fact, it will be observed that Mr. Barry positively assured the Committee that he could make no alteration or arrangement which would effect a greater saving in the cost than he had already

The plan accompanying the instructions to architects is simply one of the site, indicating the position of the adjoining buildings, and is not, as Mr. Barry





## THE OFFICERS OF THE INSTITUTE.

THE period has just now arrived and passed at which the year of office of the council and officers of the Royal Institute of British Architects is concluded, and when they give an account of their stewardship to their constituency assembled at the "Annual General Meeting;" at which meeting also their vacated seats have to be filled either by the re-election of the old occupants, or by appointing new officers, as the case may be.

The annual election of officers has passed off this year without any of the excitement which last year attended the election of a President. Mr. Tite has been re-elected without any attempt at opposition on the part of those sections of the profession whose members were last year desirous of bringing in Mr. Horsford Hope. This compliment is one fairly due to the diligence and success with which Mr. Tite has conducted the affairs of the Institute during his presidency.

Of the Vice-Presidents, the two who retire are Mr. Digby Wyatt and Professor Donaldson, and they are succeeded by Mr. Owen Jones and Mr. Adolphus, Mr. Scott being re-elected.

The honorary secretaries, it has been rumoured for some time past, proposed to retire, and this rumour received authentic confirmation a short time ago. Mr. T. H. Lewis and Mr. James Bell might have offered themselves for re-election as often as they pleased, and have been sure that their offer of continued service would have been promptly and gratefully accepted; but they have worked so well that no one can grudge them the relief of retiring from very arduous duties when they desire to do so. Mr. Lewis entered office upon the retirement of Mr. Digby Wyatt, in May, 1860, and has therefore been honorary secretary for three years. Mr. Bell has held office for two years only, he having succeeded Mr. Nelson, who, after long and laborious services rendered with great willingness, retired in 1860.

It is beyond doubt that the last three sessions of the Institute, the three since its removal to its present convenient house in Conduit Street, have been the most active and the most useful by far of its existence. The number of members has greatly increased, the attention of the Institute has been directed to questions of the greatest practical importance to its members; the average excellence of the papers read has been very great; the meetings, ordinary and special, have been numerous and well attended. All these things are proofs of the very efficient way in which the duties of the officers, and particularly of the honorary secretaries, have been performed, and will have also helped to render those duties arduous in the extreme.

We are only speaking the general feeling of the members when we say that the honorary secretaries who retire carry with them a very hearty appreciation of the value of their services, and the best thanks of all, without exception. They are to be succeeded by Mr. Seddon and Mr. C. F. Hayward, two members from whose known activity, energy, and skill the best expectations may be formed; for the continued good performance of the duties of the secretaries.

It is no light task which the gentlemen whose names we have mentioned have successively undertaken, and it is really fortunate that hitherto members have been found who are eligible to the post, and willing to act. The honorary secretaries of the Institute must of necessity be men of considerable standing and experience; and yet at the same time an amount of work has to be got through which requires much exertion and time. But the class of men fit for the post being those who are usually immersed in business, to such an extent that their whole time and strength seem needed for the discharge of the duties they owe to their private clients, it has only been by great effort, and a great sacrifice of personal comfort, that their public and private duties have been at all combined; and, as we have seen, the frequent changes which have of late taken place show that the post is one which men in practice do not feel it very possible to continue to hold for long together. There is little room to doubt that the same thing is likely to occur, with the gentlemen who have now assumed the position, as has occurred with their predecessors, and that some few years hence a fresh change will occur. This is in many ways undesirable, and suggests the thought that the time is approaching, if it be not come, for the election of a paid secretary in place of two honorary ones. Such societies as the Institute of Civil Engineers, the Society of Arts, in fact many others, find this course necessary, and have reaped great benefit from it; and it is impossible not to feel that the efficiency of the Institute, should the number of its members continue to increase as it has lately done, will only be permanently secured by the appointment of a well-selected and well-paid secretary.

There is one point to which it is to be hoped the Institute will turn its attention, and in regard of which less satisfactory progress has been made than might have been hoped. We refer to the education or assistance of students, and the steps to be taken to induce

them to study and to make use of the library of the Institute. We believe that it will not be found that the number of students is much larger than it was when the previous annual meeting was held—at which time there were only seven students—and, considering the large series of prizes offered for competition, we do not think that the drawings submitted have been of the class of merit which might have been fairly expected or so numerous as they ought to have been.

These medals, prizes, and other inducements are offered upon the supposition that there exists a large body of architectural students desirous of distinction and anxious to come forward for general competition. The results seem to show either that no such body exists, or else that, as a rule, the students are far less advanced than it is to be wished or had been hoped. We believe there is some truth in both these statements.

The only body of young men known to us as undergoing systematic training, with a view to their entering the architectural profession, are Professor Donaldson's students at London University College. The students at King's College are not, usually speaking, destined for the practice of civil architecture. Those of the Royal Academy and of the Institute receive no special instruction, and in none of these cases is architectural drawing at all a part of the course. Drawing and elementary instruction are, we believe, given to a certain extent at South Kensington, but they do not go so far as we are aware, to any great length.

Here, then, is the first essential to the creation of a body of students apparently wanting, namely, a complete college or other place of instruction. Much of this want may be supplied, and is supplied, by Professor Donaldson; but there is no course of drawing connected with his classes, and a large proportion of pupils and others do not attend them at all.

Nor does private instruction take the place of public or academic tuition. The gentlemen who take pupils are so circumstanced, for the most part, that they could not, if they would, do more than afford occasional and irregular superintendence, and give the young men an amount of elementary practice and sharing in the work of an office. It is to be wondered at if this system produces results not altogether so satisfactory as could be wished? Pupils seldom attain skill in draughtsmanship, or great acquaintance with the fundamental principles of their profession, till they have pretty well coincided their articles, and, in fact, often do not begin to study or work at all till the time when they ought to be far advanced. Familiarity with office routine and a good deal of miscellaneous knowledge is often picked up half-unconsciously, and men so trained frequently come out at last successful and competent; but had the time lost in their early years been carefully employed, they would have been able to master many things which they must be content to leave unattended or but half accomplished, or would have been thoroughly well-grounded instead of possessing little better than a smattering of knowledge.

This subject ought therefore to receive serious attention. The scheme of the voluntary examination, which has been for so long under consideration, will be a first step. It may only prove a corroboration of our idea, that the number of genuine architectural students is but small; and that whether it only does this or succeeds in doing more, and brings to light an amount of talent and training which we had hardly believed to exist, it will be useful, and, forming, as it will, an index by which to test the advance of education, it will be a valuable addition to our permanent institutions. It is, however, nothing more than a test and a somewhat doubtful stimulus. Something further is needed, and the Institute is the body which ought properly to furnish that something.

To return, from those who are to be, to those who now are members of the architectural profession, we regard it as a matter for sincere congratulation that the central society has met with so much prosperity and done so much work, and that its members and officers, notwithstanding great divergence of opinion, have been able to work together so harmoniously and in so friendly a spirit. There are some callings in which the proverb about "two of a trade" is believed to meet with constant illustration. This could hardly be said, even by Mr. Cole himself, of the fraternity of architects; and when we reflect how often the members of this profession are brought into competitive rivalry, and even called upon to oppose each other in legal cases, arbitrations, and settlements, it is no small compliment to the good feeling and honourable conduct of business habitual among them to say that in no profession is there a more generally diffused feeling of friendliness and cordiality than exists in the architectural profession. We trust that this may always remain so, and we firmly believe that if the transaction of public business and the diffusion of technical information be the ostensible objects of the Institute, its most important office is that of promoting personal friendship, and a general feeling of cooperation and mutual esteem, among its members.

## THE ORDNANCE SURVEY.

IT is scarcely possible to over-estimate the value to the country of the labours, during the past ten years, of the staff of officers and men engaged in conducting the Ordnance Survey. With an amount of skill and talent which is worthy of the highest commendation, they have pursued the object they set out to accomplish, and their gigantic task has proceeded so far with complete success. Under the enlightened and scientific guidance of Sir Henry James, the Ordnance Surveyors have penetrated into every district of the United Kingdom, and the results of their assiduity appear in the form of a series of Maps, which for accuracy and completeness of detail have not been equalled since the world began. Apart from the national feeling of pride which legitimately arises from the knowledge that we possess perfect delineations on paper of all the geographical and topographical peculiarities of the land in which we live—apart from that feeling of pride, there remains the satisfaction of knowing that those delineations are of great practical use. In all the operations of the Civil Engineer, for example, the Ordnance Maps are valuable, because they are reliable; and in the formation of highways they are of especial service. It is unfortunate that the action of Sir Henry James and his co-adjutors should have been impeded by the intermittent way in which money has been voted them by the House of Commons. A Select Committee of the House is now sitting in reference to the subject, and it may be trusted that hereafter the movements of the Surveyors will not be unnecessarily hampered. The Committee, indeed, although their labours are as yet unfinished, have given utterance to a rather strong opinion in favour of apportioning a constant sum of money annually towards the accomplishing of the National Survey. They state that "it is desirable that the Survey should be conducted as rapidly as possible, and that the sum voted for it should not vary in amount from year to year, as the frequent changes that have been made in the scales and the mode of conducting the Survey have led, according to the evidence of Sir Henry James, to the waste of £30,000 in the past ten years. That it has been stated in evidence by the Director of the Survey that an annual grant of £30,000 for twenty-one years would enable him to complete the North of England and Ireland and the Irish revision on the scales now in progress, and the South of England on the scale of 1:50,000, and that he has further stated that the Survey might be completed in twelve years if the grant were increased to £150,000, thereby ultimately effecting a considerable saving."

It rests, of course, with the House of Commons to give effect to the views of the Committee, and now that the scale upon which the maps should be finally constructed has been determined, and the work is so far advanced, there seems to be no reasonable excuse for retarding the progress of the Surveyors. It is not, however, for them the proper funds. In consequence of the reduction of the vote last year by the sum of £20,000, no less than 180 surveyors and draughtsmen were discharged, and of the remaining number (1,357) 340 have been employed upon the survey in the South of England and Wales, required for the execution of works for the defence of our Naval arsenals, and for the proposed central Military Depot at Cannock Castle. This division of the surveying force has retarded the completion of the surveys of the counties of Northumberland and Cumberland, and it likely to another year will elapse before that work is effected. We are very far from being advocates of a wanton expensiveness of the public money, but in the Ordnance Survey we see a work which, as we have said, is of the highest practical value, and we therefore do not hesitate to recommend the House to give tangible effect to the opinion of its Select Committee.

A recent visit to the Ordnance Survey Office at Southampton, and an inspection of the whole of its internal arrangements, have convinced us that the means for carrying out the Survey are adequate and complete, and that they could scarcely be in better hands. The systematic way in which every department there is managed, and the judicious division of labour throughout, tend to make the establishment a complete and harmonious whole. The mixture of military and civilian artists and workmen observable in the leather-work-rooms at Southampton does not interfere disadvantageously with the progress of the duties carried on there. On the contrary, it incites a degree of emulation which is of much value. The Ordnance Survey Department is singularly well placed as regards its site. The condition, — just without the town, and on the old coach-road to London. It stands on an acclivity and covers a large area. The principal facade is handsome and of recent erection, and there is a noble court-yard in front of it, protected by iron railings and gates. In this principal building are placed the offices of Sir Henry James, Lieut.-Colonel Cameron, and others of the ruling officials. A flight of steps at the back conducts the visitor to a quadrangle, and surrounding this are the various drawing-offices and workshops; behind these again are the observatory, the photographic rooms, and the standard time house. So much interest attaches itself to the premises and operations constantly

going on in the Survey department, that we feel almost disposed to describe them. Possibly at some future time, indeed, we may do this, for it is a question if space could be more advantageously occupied. Few who see the finished Ordnance Maps are aware of the immense amount of care and skill which have been expended in their production.

At present it may be well to confine our further remarks principally to what has actually been accomplished and what is proposed this year to be done. Taking, in the first place, England, and the survey of it on the scale of 1:50,000, it may be convenient to throw the details into tabular form:—

Locality.	Area in square miles.	Surveyed square miles.	Published square miles.
Durham . . . . .	1,067	1,067	1,067
Westmorland . . . . .	758	758	758
Northumberland . . . . .	1,552	1,543	238
Cumberland . . . . .	1,065	1,211	39

The number of square miles surveyed on this scale during the year was 422, and the plans of 440 square miles have been published.

The counties which have been surveyed and published on the 6-inch scale only, are Lancashire and Yorkshire. The 6-inch maps are now engraved and published for:—

	Square miles.
Lancashire . . . . .	1,503
Yorkshire . . . . .	5,383
Durham . . . . .	868

Total . . . . . 8,756

The 1-inch scale—that is, one inch to the mile—has been most largely worked up to the present time; and consequently almost the entire map of England to that scale is complete. The area of England is set down, according to actual measurement, at 59,000 square miles. The area for which the hills have been completed is 53,234 square miles. The only portions incomplete are the parts of Northumberland and Cumberland, before alluded to, and where the survey languished from lack of funds. All the principal towns of the kingdom have been laid down to much larger scales; in some instances, indeed, to 12-feet scales. As regards military surveys made during the past twelve months, the principal are those about London, Chatham, Harwich, Dover, Coast of Sussex, Portsmouth, Isle of Wight, Toulon, Plymouth, and Pembroke, and those were made on the same system and scales as those adopted for the Ordnance Survey of the kingdom during the present financial year. Should the finances allow of it, the whole of these will probably be finished.

The survey of Scotland during the year 1861 was 327 square miles for the 1:50,000 scale, and 451 miles in the Highland districts. The number of square miles published is 528. Twelve counties of Scotland have been surveyed on the 1-inch scale, and the surveying of seven other counties is in progress. The area of Scotland is set down at 30,000 square miles, and as regards the 1-inch scale, the map is completed for 3,522 miles, whilst a much larger area is finished in outline. The progress in the hill engraving during the year 1861, was 657 square miles. The principal towns in Scotland were surveyed, and maps of them engraved and published on the large scale spoken of in reference to English towns. The publication of the plan of Glasgow, in 1:50 sheets, and of Dundee, in 50 sheets, was completed during 1861, as were those of Airdrie, Galashiels, Hamilton, Irvine, Jedburgh, Kilmarnock, Strathaven, and Rutherglen.

As touching Ireland, which it would be unjust to omit mentioning, although at the expense of protracting this paper beyond the limits we had assigned to it—as touching Ireland, every county has been engraved and published, "as in consequence," says Sir Henry James's Report, "of the instructions under which the Survey was commenced, the plans of the northern counties, which were the first surveyed, are without that amount of detail which has subsequently been found to be absolutely necessary for the local valuations and assessments, and hence it is that we are revising those northern counties at a great additional expense." Eight counties have been revised, and two others are undergoing the process of revision at present. As in the cases of England and Scotland, the large towns of Ireland have been revised on a larger scale, though not many of the maps of these have been as yet published.

The area of Ireland is equal to 32,813 square miles, and the whole has been drawn and engraved in outline on the 1-inch scale, although maps for 1,853 square miles only have as yet been published. During the year just past, 2,509 square miles were engraved in outline, and 434 miles completed with the physical features. In respect to the surveying campaign for the present year, it may be stated that the posts of command are thus distributed: Sir Henry James, Director; Lieut.-Colonel Cameron, executive officer in



charge of the General Correspondence, and the publication of the news of Great Britain (Captain A. R. Clarke has charge of the Transcontinental branch of the work, and of the initial levelling; Captain A. De C. Scott has charge of the sinographing of the manuscript plans, and of their reduction to the 6-inch, and 1-inch scales. In addition to these, there are divisional officers stationed in various parts of the United Kingdom, so that complete arrangements exist for carrying on the great and truly national work.

The sale of Ordnance Maps during the past year reached upwards of £5,000, and it is does seem probable to us that after the work of surveying is once accomplished, their sale, for they may then be reproduced at small cost, will be highly remunerative. If we have succeeded in throwing some little light upon the subject chosen for this article, it will for the present content us; but we must return to it ere long.

#### EXHIBITION GOSPEL.

THE days of admission to the International Exhibition by payment of a British crown are nearly over, and the commencement of the closing week will inaugurate a more numerous attendance of visitors than it has hitherto been the duty of the notorious turnstiles to register. It is probable that this change, while bringing more gists to the mill, will also add more grease to the wheels of the machines and cause them to keep better faith with the public. As the register now reads, the comparison of admissions to the '62 Exhibition with that of '51, is most unsatisfactory. The cause of this we are led to conjecture, and we venture to allege, arises from a combination of circumstances, some of them uncontrollable and others not so. Depressive trade has largely influenced the falling off of the number of visitors, shortness of time in the carrying out of the scheme has deterred many able exhibitors from occupying space and lending their aid and influence. The growing dissemination of complaints through the various organs of the Fourth Estate, have served to divert the public from the enthusiastic anticipations of the overweening Commissioners. Instances have been mentioned where exhibitors, who feel aggrieved, have possessed the power to materially influence a whole district in a manner anything but favourable to the Commissioners or their scheme.

The past week has been fruitful in the extreme in effecting final arrangements of the unfinished courts, particularly in the French, American, and Dutch departments; and judging from our latest inspection, we expect an early completion of the work yet remaining to be done. Stands are fast being occupied by male and female attendants, owing, we suppose, to the withdrawal of the stringent and arbitrary instructions given to the superintendents of classes. This action, while the means of imparting life and activity to the interior of the building in a more agreeable manner than the irregular booming and clanging of bells. The Exhibition once having passed into the hands of the half-crown and shilling paying community, will shake off its hitherto marked cold reserve. We wish the *bon monde* would condescend to give up their Saturday visits in favour of the half-holiday industrial classes.

The Process Court strikes visitors with much that is ingenious and interesting. T. R. Pinchoe and Co's Exhibition Medal Press will be found at the southern end of the court adjoining the Pottery class, and is in constant action. This ponderous machine is the production of Messrs. Watt of Soho Works, and it yields a pressure of about 12 tons. Scarcely the dies meet with a lightness and grace of action as they are forced to flug, but in reality they strike with the force above mentioned. Pure tin medals are struck off and sold at 6d. each. Copper ones, after repeated stamping and annealing, at 2s. 6d. and 3s. 6d. each. Silver medals in Morocco case at 17s. 6d. These prices seem somewhat high, but in all cases where a heavy royalty has been exacted by the Commissioners, as in the case of refreshments, &c., the public will not regret the extra cost, and the great regulators are to turn an honest penny. We hear of £2000 being the sum paid for the privilege of producing and selling these *monnaies* of the building. The process of medal-making will be pleasing to thousands of persons, and more so from the fact that the exhibitors allow a portion of the manipulation to be performed by the purchasers. Two stalwart able-bodied artisans, on a raised platform, swing the horizontal beam of the screw until a few threads have been run down and the metals meet, which is a period of a few seconds. The design of the medal may be characterized as a happy one in one respect, as it gives Captain Fowke the credit of having erected a building with a central dome, which virtually and unfortunately is not the case. True, there is a qualification in the description in the words "West front," but that is no reason for striving to conceal or falsify the actual fact of the building having two far distant domes. The other side of the medal represents peace and welcome being offered to all nations by two emblematic figures seated, holding flags and an olive wreath, and surrounded by objects of art, science, and industry.

In juxtaposition to this process illustration is that of a silk velvet loom in action. Here, at intervals, may be seen the raw material woven deftly, tightly, and regularly into piece velvet. A happy contrivance we noticed is the use of double shuttles and bobbins, and brass rods whereon to strain the threads as the work proceeds. Those rods, or more correctly speaking, fine wires, afford the necessary means for setting the threads to produce the softer peculiar to velvet, and at the same time they are made alternately extended without slipping threads. The weaver in charge manifests considerable dexterity. The machine is neatly contrived, and seems free from complexity.

Passing onwards, we reach Simpson's sewing machine, from Chap-side, pressing, we suppose, the requisites of a useful machine; but as the competition in these articles is very keen just now, a more detailed observance must be deferred till another visit. The paper-collar-embossing machine, on the left, excites much interest. Specimens of collars, cuffs, wristbands, &c. are exhibited, and are really of such good workmanship as to vie with similar articles of a more costly material. We perceive that agents are wanted for the sale of these articles, which are nominal in price, and eminently serviceable. The only process exhibited is embossing—the paper outlines being the work of steam power apart from the building. A nunsauke, and we believe relative, of the present Post Office Secretary, exhibits a new letter-stamping machine, but it was not going when we were there. Mr. Reynolds exhibits his process of making pipes complete from the clay. The stand is a few yards distant on the right of the medal press. The arrangement and details of the process are creditable to the exhibitor, and worthy of the space assigned to it. A highly interesting feature (specially removed from Class 10) in this department, and one which will, we are sure, be well patronized, is a plotiole, or small portable patent moulded carbon filters by Messrs. Atkins & Son, Engineers, of 62 Fleet Street. Blended with the stand is a novel description of fountain, such as is exhibited at their city depot. It is constructed of glass tubes, through which purified air and water circulate. At the base of this stand issue six outlet pipes, from which flows filtered water for the use of visitors to the building. Filters and fountains are to be seen in the shape of a "fountain" in the nave, would, we predict, have escaped the censure of Mr. Cole, and been a pattern to the Exhibitors, who have been suffered to build huge unsightly erections. We shall return to this stand and its utility, when considering the class to which it legitimately belongs.

We must not regret the absence of more materials to work upon in the Process Court, if it contains nothing more than what we saw. Where are the fancy glass-flowers and the funny button-makers, whose expeditious manipulations are always a source of pleasure to the curious sight-seers?

Our presence in this Court naturally led us to scrutinise rather closely a recent importation from the great nave, so much the culminated portion of Mr. Cromer's toy "trophy." True his "trophy" was not worthy of its first position, but notwithstanding the sweeping sarcasm which has been heaped upon it, we must not forget that the worth of toys in educating the young is considerable, and that toy-making is the means of employing whole communities of workpeople. The fragments of the "trophy" are seen displayed on a stand, and are of considerable design. To render it effective, the background—the wall—should be of a contrasting colour; as it is now, wall and objects have no diversity as regards colour. Might not a few pounds have been spent in plastering the walls and colouring them properly with neutral tints? The large sums of money which have been expended in producing satisfactory hangings for ball-rooms and banquets, and others, might very justly be devoted to the Commissioners, exchequer.

The reflecting features of the past week's programme of procedure have been the intended early issue of shilling tickets, the reformation of the objects in the nave, the introduction of musical instruments, and the improved entrance to the eastern annex, all of which we have seen, and the suggestions pointed out by the public press. We trust that the suggestions of "the gentlemen of the press" will throughout be treated with the same respect, as deference to popular criticism will much affect the success of the whole enterprise.

**METROPOLITAN BOARD OF WORKS.**—At a meeting of the Metropolitan Board of Works, to be held this day (Friday), the following recommendations from the Main Drainage Committee will be taken into consideration:—"That during the absence of the Chairman of the Board (owing to ill-health) a chairman be elected on every Friday, or other board day, from the members present at the meeting of the Board." "That each committee be directed to meet at their next meeting, from their chairman, a chairman and vice-chairman, who shall so act, during the pleasure of the committee." "That during the absence of the chairman, Wm. Hy. Dalton, Esq., be authorised to counter-sign cheques in lieu of the chairman, and be requested to attend on the occasion of every payment made at the office, for the purpose of handing over the cheque to the party entitled to receive the same; and that, with this exception, the usual regulations with regard to the drawing of cheques and mode of payment be continued." "That during the absence of the chairman, the clerk of the Board do counter-sign the documents signifying the approval of the Board to applications for special buildings under the Metropolitan Building Act, for the formation of streets, &c."

**MEMORIAL OF THE LATE PRINCE CONSORT AT BALMORAL.**—The *Aberdeen Herald* says, at a meeting of the tenants on the royal estates, held at Aberdein lately, it was finally resolved to erect a granite obelisk as a monument to the late Prince Consort. The place of erection was left to the decision of the Queen; and also has, we understand, decided upon a little wood—"known" to the south-west of the castle, and near the road. Various proposals for the monument were submitted for the approval of Her Majesty—the one she has chosen being, we believe, by Mr. Beeton, architect at Balmoral; and as it has already been contracted for, the work will be proceeded with immediately.



## A NEW PLAN FOR BUILDING BRIDGES.

**MR. SEDLEY**, of 210 Oxford Street, has just protected by letters patent a new plan for building bridges in wood and iron of large spans. We have seen a model of the bridge, and consider it well worthy of the consideration of architects, builders, and mechanical engineers.

Models of the bridge on a scale of 60 ft. to 1 ft., and 28 ft. long, and weighing 24 lbs., may be seen at the International Exhibition, Museum of Patents, South Kensington, and the Architects' Museum, Conduit Street. Engineers and architects will be allowed to test them without reserve, having first agreed upon the weights such structures ought to bear.

The inventor claims in his patent for a bridge which can be constructed of wood or iron, or wood and iron steel combined. One of the new features of this bridge is that the suspension forms a part of the tubular construction, and is entirely independent of the piers or abutments, and forms no part of them, and so differs entirely from any bridge that has hitherto been built or attempted. On other points there is also a marked difference. The inventor proposes to build his bridge on shore on a suitable tram or railway, and when completed and fairly tested, to launch it out as far as desirable over the abutment, always remaining on shore a sufficient part or portion to counterbalance fully the part projected out. In bridges up to 500 ft. span, the inventor proposes to build the bridge entirely on one side of the river or valley intended to be crossed, and then to launch it out over the river or valley till the projected end is received on the abutment on the other side or shore of the said river, &c. But when the spans exceed 500 ft., he proposes to build one half of the bridge on each shore, and, when completed, both are run out intermediate of the width of the river and united in the centre by means of the shoe S shown in the sketch. The centre is also further strengthened by the application of arched flanged girders, which are made of great strength, consistent with lightness, and for this purpose it is proposed to use steel or iron or steel combined. Great economy and simplicity are claimed for this method of construction, as no subaqueous piers or works are necessary, and single spans up to 1,500 ft. in width can be constructed at any height without risk or difficulty, as the work may be tested daily whilst in progress. In the diagram shown of the bridge it will be seen that it is composed of a series of long rectangular girders piled on each other, varying in size and thickness according to their distance from the centre of the bridge. The roadway is suspended by means of bars passing through the centre of these girders. The suspension bars or plates H perform only a limited office in the place of the usual catenary curve.

Sections of the girders over the piers are shown at A, B, of the in-shore end at C, D, and of the middle E, F. It is quite evident that in this method a bridge of single width may serve a double purpose and be useful for ordinary and railway traffic.

## ECONOMIC MUSEUMS.

**MR. THOMAS TWINING** of Twickenham has recently done "the State some service" by calling into existence an Economic Museum, which deserves the attention of the universal public.

That gentleman, says a contemporary, in 1857, addressed a communication to the Chairman of the Council of the Society of Arts, in which the following passages occur:—"The experience acquired since 1847, as a member of the Managing Committee of the Labourers' Refreshment Societies, has led me to a conviction that much of the privation, discomfort, and ill-health to which the working-classes are subject in this and other countries, and many of the errors and failures of the friends of the poor in their benevolent endeavours, might be avoided by a more general diffusion of that kind of practical knowledge, in matters of domestic and sanitary economy, which may be termed the science of the household. I perceived, at the same time, that the only way to make that knowledge popular was to offer it in an easy, familiar, and attractive form; and thus I was naturally led to the plan of establishing exhibitions and permanent museums of domestic economy."

Mr. Twining had, in fact, been quietly working out this theory since the year 1850. In 1855 it was fully developed in a memorandum addressed by him to Lord Elington. Copies of this memorandum were printed, and extensively distributed throughout Great Britain and the Colonies. It was an able document upon the subject of which it treated, and we may judge its general character from the following extract:—"Manufacturers, tradesmen, and mechanics work their inventive abilities (as a rule) in a business-like manner. Men of science, more especially so-called, have not yet, generally speaking, attained to such a standing in this country as to be able to lay aside the thoughts of themselves and their families. Even amateurs, though their position may raise them above pecuniary considerations, are seldom able the temptation of bringing out that which may be conspicuous, in preference to that which may be useful. In short, the homage of knowledge and ingenuity is very naturally paid to those who can best give an acceptable return; and whilst every appliance of science and art is

called into requisition to meet the fastidious fancies of the rich, and to supply novelties for the cravings of fashion, the requirements of the humbler classes are comparatively overlooked."

The writer evidently saw one of the great causes of the destitution and criminality which disgrace the annals of our own, and other countries, and he determined also to point out the remedy, and if possible, employ it. The publication of the memorandum and the persevering industry of its framer were soon responded to and rewarded. Economic Exhibitions of a temporary kind were inaugurated at Paris in 1855, at Brussels in 1856, and at Vienna in 1857. These were all successful in a very high degree. At the South Kensington Museum, too, Mr. Twining succeeded in getting a section appropriated to the purpose he had in view. This was called—"The Department of Domestic Economy, comprising Illustrations of Every-day Life for the Working-classes;" and of its nature and usefulness it is unnecessary for us here to speak.

Encouraged by the success of the embryo collection at South Kensington, which had been formed there permissively and experimentally, Mr. Twining removed the exhibition to the Polytechnic Institution, and has now finally removed it to Perry House, near the railway station, Twickenham, for convenience and more complete development. It is, in fact, as the example for a grand Metropolitan Economic Museum, and for branch museums throughout the country, that the founder of the present institution at Twickenham desires that institution to be regarded. He is, indeed, of opinion that Economic collections should be established on all hands, whose object would be to impart to all classes, and especially to those whose income is small, the "knowledge of common things, or science of every-day life." He would have them show, for instance, what sort of dwellings they should live in to secure health and comfort, and what improvements in household management may be derived from the discoveries of science, or from other sources. In short, he would have the Economic Museum teach the working-classes how to live with judgement, and get the best money's worth for their money.

It would be difficult to conceive more praiseworthy objects than those sketched out by Mr. Twining, and it is satisfactory to know that they are not the visions of a philanthropic dreamer, but the aims of a sterling, steadfast, and determined man.

In the establishment of the Economic Museum at Perry House, we can see an earnest of future and permanent good to the working classes of this country. It is an exemplification of what the will and energy of one man may accomplish, when the will and energy are governed by right principles and guided to practical ends. We do not despair, indeed, of seeing "London with its Economic Museum on the fullest scale, provincial towns with appointed collectors, Mechanics' Institutions, with rooms allotted to the illustrations of common life. Lecturers supplied with portable Economic Collections and Educational Establishments, down to Village Schools with their Economiums or Cabinets of Useful Objects." When this state of things shall have arisen—and it is no utopia that we are picturing—how much of misery, how much of degradation, and how much of crime, will be in a fair way of being banished for ever from among us? The barriers between classes which selfishness, greed, and which ignorance maintain, will be thrown down, and that sympathy, of which the good King James Talbot spoke, and which, with his dying breath he invoked, will disseminate its divine influence on all around. The great merits of Mr. Twining's scheme of popular education, are its practicability and freedom from any shade of sectarianism. Its advantages will not and cannot be confined to any one class, sect, denomination, or sex, but to the humbler portion of the community, irrespective of all distinctions, the good resulting from its realisation must be considerable.

Amid the din and clatter about iron ships, rifled guns, submerged vessels, projectiles, targets, and fortifications, it is pleasant to turn aside for an instant and look approvingly upon the efforts which are being made for the amelioration of the troubles, difficulties, and cares which beset those who are "at home."

The Perry House Economic Model Museum is divided into nine classes, as follows:—

- Class I.—Building Designs.
- Class II.—Building Materials.
- Class III.—Furniture.
- Class IV.—Clothing.
- Class V.—Food, Fuel, and other Household Stores.
- Class VI.—Health.
- Class VII.—Home Education, Self-Instruction, Recreation.
- Class VIII.—Miscellaneous.
- Class IX.—The Library.

The Museum is open to the public only on Wednesdays and Saturdays from 10 to 5 p.m., on the presentation of tickets of admission, which may be obtained from Mr. Twining, or at the Society of Arts, Adelphi, London. The founder of the Museum is entitled to expect cooperation, and we cordially invoke its aid in so good a cause. The Library as it exists at present is admirable, but its extension by donations of eligible books is a thing to be desired.

## PUBLIC MONUMENTS.

THE last number of the *Edinburgh Review* contains an admirable article on public monuments. After the reader has perused the following extract, probably he will refresh himself still further by reading the article itself.

"Amongst the numerous monuments which have been raised in our time, two of the best are the monument to Sir Walter Scott in Princes Street, and the monument to Pascal placed under the elegant and graceful tower of St. Jacques, in Paris. Doubtless, these works derive an additional charm from the associations they awaken. Scott, enthroned in his magic chair, surveys 'his own romantic town,' and many of the scenes to which his muse has given an imperishable interest, whilst the Gothic structure above him is itself consecrated by his genius. Pascal stands beneath the tower, from the top of which he made his own experiments on the pendulum, and which has now, in the mutations of French society and architecture, become the monument of his fame. These may be exceptional instances; but they serve to show what pleasing results are to be obtained by a judicious combination of sculpture and architecture, where each would be dull and lifeless without the other. They are examples, too, of statues placed in or under open buildings, an expedient which protects them from the direct action of the weather, whilst it serves to exhibit them in the most favourable light.

To speak of single statues or monuments on a smaller scale, although that is not the subject to which we originally intended to direct these remarks, it is evident that the nation greatly needs a suitable repository for such memorials. Nothing but the want of such a repository could have induced the Deans and Chapters of the metropolitan cathedrals to turn those edifices into museums of sculpture, peopled with the effigies of departed greatness. The great Abbey and the Dome of St. Paul's are followed by the remains of the illustrious dead who rest within those walls, and the monuments raised there, when they are of a sepulchral character, are strictly in place. The proposal to make the monument to the Duke of Wellington a mortuary chapel in St. Paul's is perfectly appropriate, if we may dare to hope that the execution will answer to the conception. Westminster Abbey contains no less than thirty-two illustrious statues of life-size, some of which—as such as the statue of Queen Eleanor—are of extreme beauty: the tombs of Henry VII. and his queen, by Torrigiano, are fine works in bronze; and the recumbent monuments of Elizabeth and Mary Queen of Scots, supposed to be by Nathaniel Stone, are characteristic and interesting. But we view with different eyes the forty-six portrait statues, life-sized, and the three hundred and eighty-two medallion portraits, which have been crowded into this sacred edifice. To erect a statue of a great man in a church, simply because other great men are buried there, is an offence against good taste and good feeling. The statue of the late Sir Robert Peel, by Gibson, in Westminster Abbey is a complete example of everything that is most objectionable; and, with the strongest desire to do honour to that illustrious figure, we are glad that he was not in any other place and in any other costume. As far as Westminster Abbey is concerned, the question is solved to a great degree by the want of space for more monuments; but from the venerable and delightful associations connected with that spot, it is much to be desired that some fitting extension should be given to the monuments in the precincts of the Abbey, by executing the restoration of the Chapter House, proposed by Mr. Scott some years ago, or by converting the cloisters into what they strictly ought to be—the Campo Santo of the Royal Monastery of England.

"One of the finest parts of Barry's conception for the House of Parliament, is the skilful conversion of Westminster Hall, the most time-honoured and august edifice in this realm, into the approach to the Chambers of the Legislature. We see no reason that this great Hall should not be adorned by a certain number of illustrious statues—indeed, we think that there is no other place so fit for them. The light, which is now defective, might easily be improved by introducing plate glass into the lower tier of windows, and the effect of the Hall, so decorated, would be one of the grandest things in Europe.

A very large number of the monuments which now decorate the capitals and great cities of Europe are of recent execution; and probably there has been no period since the Roman Empire in which so many statues have been erected as in the last fifty years. But the same feeling has everywhere invoked some form of art, however rude, and seeks to attach the perishable record of frail humanity to some monument of indestructible permanence or command. The statues of the Egyptian monarchs, and the spots hallowed by revelations from heaven; the nameless tumulus which looks out on the Northern Ocean; the Pyramids, in whose sepulchral recesses modern science has read the names of forgotten kings; the granite obelisk, whose shadow has marked day by day the passage of three thousand years, like a needle on the dial plate of time; the dome-shaped top which covers the reliquary of Atrahashpura, or the prodigious Minaret of Victory which towers above the ruins of Old Delhi; the sculptured forms of Greece, which art made the counterfeit of life, and superstition the object of idolatry, until the pagan world was peopled with a race of ideal beings, exalted by the imagination of the people and the artifices of the priesthood to the rank of gods; the stripped oak, on whose scattered boughs the warrior hangs the trophy of his capture; and, we think, through which the victorious Imperator led his triumph to the Capitol; the lone column which he encircled with his Dacian conquests—were all different modes of setting up some beacon above the waters of oblivion—were all attempts to associate some permanent material object with the fame and love clinging to a human life. The pious veneration of the

Middle Ages for the memory of the great and the brave took the form of elaborate tombs,—the fit resting-place of a Christian knight, surrounded by the heavenly patron of his faith and the emblems of his salvation. In Italy the splendour of the arts almost eclipsed their application to the memory of the dead, and the marvellous Chapel of the Medici is the monument not so much of Lorenzo and Julian as of Michael Angelo. From this stage the transition was rapid to courtly adulation and allegorical imagery. A monument loses its real importance by as much as it departs from simplicity, reality, and truth. It is easy to trace in the history of monuments erected under similar circumstances, and as such as the Pagan tombs in St. Peter's, the progress or decline of correct taste in the centuries which have succeeded the erection of the edifice in which they stand.

"The inventory of the public statues of London is not a creditable one. We have fifteen kings and queens, namely, the grand statue of Richard Coeur de Lion in Old Palace Yard, Elizabeth, formerly at Lincoln's Inn, in front of St. Dunstons, Charles I., Charles II. (supposed to be the statue in Soho Square), James II., the fine work by Gibbons behind Whitehall, William III. in St. James's Square, three Queen Annes, two figures of George I., one of George II., two of George III., the colossal statue of George IV. in Trafalgar Square, and William IV.—a coarse statue in the approach to London Bridge; the Duke of Cumberland (the bust), Kent, and York; three Wellington statues, Nelson, Napier, and Hawke; Francis, Duke of Bedford, Fox, Pitt, Canning, Peel, and Lord George Bentinck; Major Cartwright, Sir Hans Sloane, and Dr. Jenner. Statues of Stephenson, Brunel, and Lord Herbert are in preparation. The list is a lamentable one; it contains not one of the first names which have dignified English literature, philosophy; and the names of the great benefactors for the most part been raised by courtly sycophancy or party enthusiasm—not by the deliberate veneration of the nation for its greatest benefactors. The present mania for 'testimonials' tends to multiply this evil, and to raise statues to men whose very names will be forgotten in another century. We have sometimes thought that it would be well if those modern candidates for posthumous fame were subjected to the same test which the Court of Rome applies to the beatification of its saints, and that no one should be added to the calendar of heroes and sages until half a century has passed over his tomb. Contemporary monuments are apt to partake too much of the zeal of adulation or the poignancy of personal regret. In some cases indeed time and the justice of posterity will supply what was neglected at the moment of death. Thus the county of Salop has recently raised a forcible and dignified statue of Lord Clive; and the town of Grantham now boasts a statue of Newton, which was inaugurated in September, 1858, by Lord Brougham, who pronounced one of his most finished oratorical compositions on that occasion. Well might he exclaim, that it was a just tribute of astonishment to the memory of a benefactor of the world, exalted to the loftiest place by the common consent of all men, no public monument should have been raised in his own time, or for a century and a half after his death. The statues of Newton in the ante-chapel of Trinity, Cambridge, and in Westminster Abbey, are appropriate memorials of him in the College he taught, and men of letters of the great order he led. But the genius of Newton ranks him with the philosophers of the first order. It may be said of him with greater truth than of the philosophers of old, that the universe itself is the monument of his fame; but it is a reproach to the nation that no means should have been found to place more conspicuously before the eyes of future generations that dignified form, that serene and speculative countenance, which so nobly distinguishes the first of England's philosophers."

ELVETHAM HALL, HANTS.—The works at this place (the seat of Lord Colborne) are rapidly approaching completion, and when finished will greatly enhance the reputation of the architect, Mr. T. St. Julien. The exterior has been nearly rebuilt, and presents a most imposing general appearance. The interior work and decorations (by Harland and Fisher of London) are in capital taste, and on a most liberal scale. The walls of the great hall are covered by an inland species of fresco painting, in a diaper pattern, as the corbels and the ceiling of the staircase are, rising from thence to the ceiling a continuous frieze, of brilliantly coloured shields, is arranged in genealogical series. The ceiling itself is in fresco, in an ornamental design of flowers and foliage, further enriched by subjects from the death of King Arthur in the centre, and, in medallions round these, by portraits of his queen and his knights, and men of letters of the time. From the hall to the great staircase are treated like those of the hall itself. The ceiling is painted in a geometric arrangement of bright colours, and the staircase ceiling is decorated by a richly gilt central Sun, round which are arranged, in medallions, the signs of the Zodiac, the Four Seasons, and Day and Night, all in fresco. The library has upon its ceiling authentic portraits of the statesmen and men of letters of the time of Queen Elizabeth, surrounded by foliage and ornaments characteristic of the period. The ceiling of the drawing-room is divided by timbers into various geometric forms; the panels thus created being filled with an ornament of brilliant colours, with, in the centre of each, a head of one of the characters in Sir Walter Scott's "Kilnwarden." The ceiling of the dining-room is in a similar design, with a group of figures (in gold and brown) and an entirely covered by interlacing branches of various fruits, amongst which the fig, vine, orange, and peach, are conspicuous, painted from nature, the intervening timbers being partially gilded and painted in various patterns. The effect of the whole is very refreshing, and the general ceiling treatment throughout the entire building renders this an important example of that application of art.

## LONDON ROADS AND RAILWAYS.

As if to make amends for a long state of apathy, the employes of the Board of Works are pushing on their operations in regard to the formation of the new street from Blackman Street, Borough, to Blackfriars' Road, with great vigour. At the Borough end of the new thoroughfare the results of their recent labours are especially apparent. For a considerable distance the pavements are completed, and the paving of them with granite is in a fair way of being so. The value of this street when finished and opened will be great. The difficulty of reaching London Bridge from Stamford Street, Blackfriars' Road, except to the initiated, has hitherto been immense, especially as respects vehicular conveyance. There was nothing for it but to go up the road to Union Street, a sufficiently narrow line of communication, and through it, if found possible; or else take Holland Street, and then tempt the "dark perplexed ways" of Bankside. The new street passes through hallowed ground, as some would term it, for the supposed site of the theatre where Shakespeare played in his own eternal dramas is in the line it takes. The site of the Bear Gardens, too,—to step at once from the sublime to the barbarous,—of three hundred years ago, will be covered by the rapidly advancing thoroughfare.

In close proximity are the works of the London, Chatham, and Dover Railway; and these are progressing with satisfactory spirit. The line will pass very close to the venerable and picturesque church of St. Saviour's, the appearance of which was not improved by the formation of the approaches to New London Bridge.

Approach of the Chatham and Dover Railway, it is to be lamented that the City Authorities can come to no conclusion as to the kind of structure which shall supersede the rickety, dilapidated, and dangerous bridge of Blackfriars. Their hesitation on this point is a serious misfortune for the London, Chatham, and Dover Company, and retards their movements to a considerable extent. It seems to us that the proper solution of the question lies in the construction of a bridge of sufficient width and stability to sustain both the ordinary and the railway traffic. One or two plans for such a construction were submitted, we believe, to the Bridge Committee, but, so far, without inducing their concurrence. It would be difficult to conceive anything more incongruous or inharmonious than would be two bridges of a totally different character and architectural treatment, spanning the Thames within a few feet of each other; and we hope that the people of London will be spared so humiliating an exhibition.

What with lines of railway in process of formation, the throwing of not particularly handsome bridges across the principal streets and roads, and the bustle contingent upon the anticipatory demolition of dwelling-houses, the Boroughs of Southwark and Lambeth are in a constant state of confusion. The landmarks of the "oldest inhabitants" are disappearing at the shrill summons of the coming locomotive; and the words of the poet,

"The presence of perpetual change is ever on the earth,"

are receiving literal illustration at the hands of the work-people of the two boroughs. Out of that chaos order will eventually arise no doubt; and in the moral certainty that all the changes thus made will "work together for good," must be found consolation for the inconvenience arising from their procedure.

## AUSTRALIAN ITEMS.

WE have not heard as yet that the accepted design for the new Houses of Parliament, proposed to be erected in Sydney, has been brought into practical requisition. Additions, however, have been commenced recently to the Sydney University buildings.

The first portions of the design of these were completed externally three years ago—with the exception of the turrets on the tower. The works now undertaken will give an aspect of completeness to this part of the edifice. The shape of each of the turrets, which will be four in number, will be octagonal; the projecting mullions will support a mitre-shaped coping, the successive ridges which are to be ornamented with rows of crockets, and above all will be a gilt spire. Between the turrets on each side there is to be a massive and tasteful combination of crockets and finials, surrounding a clock face. A clock for one of these has been presented to the University by Sir Stuart A. Donaldson, and it is intended to supply the requisite gearing for each of the four faces to show the time. The contract for the masonry of the turrets has been taken by the Messrs. Loveridge for £1,247, and that for the carving by E. W. Hinton, for £200, the work to be completed in six months. The total sum voted by the Legislature for going on with the buildings was £6,000. The balance of this amount will be expended in flooring, plastering, and the internal fittings generally of the entire structure. The work will be highly creditable to the colonial architects, as it will in its entirety be permanently valuable to the rising generation of colonists. The very best proof of the prosperity and enlightenment of our colonial fellow-subjects is to be derived from their establishing such glorious institutions as the Sydney University.

The new Australian Museum facing Hyde Park, in the same city, has been commenced, and is in fact progressing rapidly. The foundations are in, and the walls of the north-eastern corner are above the race-course.

On the 17th of March, a meeting was held at Sydney for the purpose of devising means for completing the building of St. Andrew's Cathedral. The Governor of New South Wales presided on the occasion, and much sympathy with the object of the meeting was displayed by the numerous and influential auditory. The foundation-stone of the edifice was laid five-and-twenty years ago, and the annual expenditure since has amounted to £1,000.

Eventually it was determined by resolution to raise subscriptions for the carrying on of the work to completion. The fact is, that the colony twenty-five years since was much too young and not sufficiently wealthy to undertake with much prospect of success the erection of so ambitious and extensive a structure as St. Andrew's Cathedral. It cannot be said that the brick-work and masonry comprising so much of it is a discreditable work rapidly executed. It is not "green" work, unless that kind of greenness which sometimes arises on buildings from dampness and neglect may make it so.

## FIRE-PROOF STOREHOUSES.

Sir,—At a time when sundry minds are much disturbed respecting the storing of petroleum and other combustibles in large quantities, I desire to offer a few non-professional suggestions regarding the erection of Fire-proof Storehouses, for the consideration of professional persons.

1st. I propose that, where a plurality of warehouses are to be erected, they should be built, say 4 ft. apart, not to external appearance, but the space subdivided into a nest of flues, giving to each floor its distinct flue, and that the walls of each flue be carried not less than 12 ft. above the roof. These flues, in the event of fire, would not greatly encourage combustion, if at all, so long as the windows and doors were closed, while they would provide a safe outlet for smoke and flame, which would give immediate notice of the existence and locality of the fire, at the same time admitting the possibility of entering any floor without fear of suffocation, as the opening of the door would drive the smoke and flame with greater force toward the flue.

2nd. That as all existing floors, whether paved or of brick, become red hot under a given degree of heat, I propose to substitute for them iron tank-doors; that is to say, to adopt a similar arrangement of girders as for carrying a brick floor, but to convert each space from one main girder to another into a water-tight compartment, having all the cross girders so perforated as to admit of the free flowing of water; the depth of each floor-tank to be determined by the depth of girder required, the lower face forming the ceiling of one floor, and the upper floor of the next. This kind of floor (so long as the flow of water was not interrupted) would admit of bracing to any extent, and would be much stronger than any other.

3rd. I would substitute for the present form of stanchion tubular columns, connecting the base of each with the floor-tank by a short tube or otherwise, and also perforate each near the cap, so that in the event of fire each would be capable of discharging a powerful jet of water, in case of the fire taking origin might generate rapidly, it would be matter for consideration how far the steam so emitted might be available in extinguishing the flames, or whether each set of columns should be provided with a tube to convey it outside; or, again, whether the existence of the fire would be a sufficient safeguard.

4th. That the loophole-floors should be of iron, and so constructed as to be capable of containing water, having a tube at the top connected with the roof, which I suggest should be a tank, not exceeding 3 feet in depth, and covering the entire building, less so much of it as might be required for light.

5th. That each window should be provided with a shutter of iron shutter, fixed on the sliding principle, working in a groove upon the bottom of the floor-tank, having the bottom part open and the top closed so as to allow the steam to fill the vacuum and pass out of a perforation near the top of the inner face, also having the middle part of the bottom shorter to allow of the water flowing under.

6th. That the same principle be observed with the loop and communicating doors.

7th. That the roofs of the buildings should be accessible externally. This might be by iron steps built in the walls after the plan of the sewer manholes or otherwise.

8th. That the building be provided with service-pipes having an outflow into each section of the floor built in the walls parallel with each floor-tank, having each a perpendicular feed-pipe with its orifice in the bottom of the roof-tanks furnished simply with a wooden plug. Two perforations of 1/4 inch diameter through each main girder would prevent one section of the floor being charged before the others, and a simple arrangement of similar tees and stop-cock levers, would prevent the floors being overcharged either with steam or water.

9th. That where a plurality of buildings are to be erected, the same height should be observed, and each roof-tank connected, which, in such a case as Cutler's Warehouse, would give a sufficient supply of water for any emergency, independent of all extraneous aid.

10th. That the roof-tanks be kept constantly charged, and allowed to flow slowly to prevent stagnation.

11th. That a hose be provided for internal use on each floor, connected with roof-tank.

12th. In the event of fire, it would be obviously possible to charge the tank-floors above and below, reserving the entire force of water to swamp the burning goods, an operation that might be performed before the arrival of any extraneous aid.

Such is the plan I propose, and, should it be considered to possess any merits, I leave both it and myself in the hands of the public to deal with both as we may be thought worthy.

JNO. C. PORTER, 63, White Horse Street, Stepney.

## WATER-COLOURED EXHIBITION.

6 PALM-MALL EAST.

THE present collection does not display any extraordinary advance either in execution or choice of subject from that of last year. The only change of importance is the addition of three new members, namely, Messrs. J. W. Hunt, J. W. Whitaker, and H. R. W. Hunt. The last-named artist has been chiefly engaged on pictures in oil, but he now appears as a most accomplished painter in water colours. "A Meadow Scene in Sussex" is remarkably finished, but at the same time the general effect of nature is well preserved. "Evening," from the same pencil, will be admired for the flatness of the distant country, the admirable style in which the animals

are painted, and the great variety of treatment. Several other scenes of a similar kind, being equally well painted, establish this artist as a valuable acquisition to the society. Of every high order of merit are the four contributions by Mr. J. W. Whittaker. "Llyn Helw" is a fair example of the rest, for it is classically treated, well composed, and chastely coloured; and the five drawings exhibited by Mr. Alfred Hunt, the other new member, are graceful in feeling, with a tendency to minute pencilling, something in the style of Birker Foster, particularly the drawing with a pleasing twilight effect, entitled "Oberglen." Highly distinguished of the new contributions, we will turn our attention briefly to the veterans of the society.

Mr. Branwhite is less theatrical this year, and his landscapes gain by the change. "The River Der, North Wales," retains all his usual clearness of effect without exaggeration. "The Morning Blessing," by Mr. Riviere, is pretty, and would be perfect if the face were not too powerfully portrayed for the rest of the subject. Mr. Taylor continues to paint his dogs and huntsmen in his old broad manner, without having improved the correctness of his forms; but the drawing (No. 7) is appropriately called "Repose," as the arrangement is suggestive of that sentiment. Mr. Davidson is, as usual, a numerous contributor. "Looking up the Dolwyddelan Valley, North Wales," is clever; "At Reigate—Early Spring" has much careful detail, and at a proper distance presents the true aspect of nature. "Late in the Autumn—Windsor Park" is in the same style, and "On the Fugury, North Wales," is a small but very effectively represented. There are several excellent drawings by Harding, and we think the best of them is the "Pass of Invercauld, Scotland—Diver Stalking." Mr. W. C. Smith's view at "Vicenza, Lombardy," which is generally elegant in treatment, would be improved if the harsh and angular outline of the distant mountain were softened; but there is much vigorous pencilling in the "Bed of the Tyne, Lymondale," some of the productions by Mr. John Cullow, his study "On the Margate Sands," are elegant, and not so contrived as formerly. "Beating up the Frith of Forth" has besides a freshness of atmosphere very suitable to the subject. Mr. Gilbert pursues his rockless and bravura style of execution in "Rhine Wine," a party of Germans indulging rather plentifully in that beverage, but in "Don Quixote at Home," arguing which was the better Knight, Palmerin of England or Amadis de Gaul, with the latter-cumprison of the town, shows that this artist can moderate his pencil and bestow due consideration upon a subject when it pleases him. It is to be regretted that he does not indulge in that pleasure more frequently.

Carl Haag, although his works are always excellent, does not appear to show so prominently this year as we have seen him on former occasions. "Ballcock," with its fine ruins, as the robbers lurking in the shade waiting to surprise a caravan, is an interesting subject.

Alfred D. Fripp has greatly improved. "A Dorsetshire Shepherd Boy" is a very beautiful drawing, and remarkably refined in both treatment and colouring. Mr. George Fripp also deserves commendation. There is much excellent painting in the view of "Glencoe, Argyleshire." A group of children on a piece of rock, which he calls "Specimen from the Mountains of North Wales," is nobly sketched in execution; but "Cauldfoot Ferry on the Thames, near Stratford," is delightful in tone, elegant, without apparent labour, and in general effect is very true to nature. Mr. Palmer's works are quite as good this year, if not better than they have hitherto been. His glowing sunsets and ideal subjects are very pleasing, and it strikes us that he rises into the regions of poetry in his drawing of "The Fisherman's Wife," hailing the boat as it appears on the sunlit horizon after a storm. There is a very extraordinary composition, which must not be passed over, by Mr. Smallfield. It is "St. Francis preaching among the Birds," from the "Golden Legend." The mild and subdued light pervading the whole scene is suggestive of balmy quietude. The dark dresses of St. Francis and his companion add solemnity to the effect, while a calm devotion is expressed upon the features and the feathered audients, among which are the branches of a laurel tree, at the feet of which are congregated those formed for the land and water, present an effect truly excellent.

Mr. Birker Foster sends eight of his very highly-finished and exquisite drawings: "A Lock" is luminous and picturesque; "Children with a Bird's Nest," is excellent; "Fishing," besides the charm of the execution, is pleasing from the evident interest the children take in the sport; but for beauty and breadth of touch, the landscape with the green leaves and clear atmosphere, "On the Sea, near Bournemouth, Isle of Wight," stands unequalled. David Cox, jun., has made an advance, because, without copying, he points with more of the feeling of his late father. "Emancipation Oak—Holwood, Kent," "An Avenue, Surrey," and "Fairlight Mill, Sussex," may be taken as examples of his improvement in art. Mr. Richardson's "Avalch" is fine; and "Off the Hills, Strath Braan, Perthshire," and "Bellesay Lake, Cheshire," are good. Mr. O. Oakley wisely treats his subjects in a low tone of colour, by which he draws attention to their humour and expression. "Turned Back," a boy who has failed to learn his task; "A Victim Approaching;" "Gipsies looking out for a Customer to have his or her Fortune told," and "Buy my Spring Flowers," have all the ease and movement of nature. "The Mountain of Holy Cross, Ardara, Argyleshire," is one of those in which the drawing of the sky and the colouring are very striking contrast is obtained by opposing the pink tints thrown by the setting sun upon the tops of the mountains to the delicately-ethereal blue of the sky; the whole subject is besides bathed in mild atmosphere and softened light. The large drawing by Mr. H. Gastineau of "Lago di Piano," shows much patient labour; it however wants well-placed and decisive accents to give it the vigour of nature; but

a "View near Cassel Clog, North Wales," is better in the latter respect, and has also something classical in its general conception. "View in the Forum at Rome—Morning," is a clever and firmly-executed drawing by Mr. Arthur Glenzie. Mr. W. Hunt's minute imitations of fruit, flowers, and birds' nests are as successful as ever. Mr. George Dodgson has a spirited subject entitled "On the Banks of the Thames;" an excellent effect of light in that of "The Thames at Mile End;" and a remarkably clever and playful treatment of moonlight in a study of a classical castle, York-shire. The small, but powerfully executed heads by Mr. Barton, have attracted much notice this year. They are "The Wife of Hassan Aga" and "Yelitzta." The same artist exhibits a third drawing of a child playing at cup and ball in a German kitchen, the whole of which is surprisingly clear, but impossibly clean. "A Harvest Home," by Mr. Walter Goodall, is a very numerous work, the figures are dancing with lightness and spirit, the shadowing is managed with great skill, and the whole is a capital representation of the reality treated throughout with admirable taste. "The Driving to Fold—Sunset," and "Repose," by Mr. F. O. Finch, are both excellent, although the former might be made a little more decided in parts with advantage, but the latter has purity of style, and is, besides, very highly finished; and a "Canal Scene at Malines, Belgium," by J. Burgess, jun., is cleverly and forcibly executed.

## THE NEW WATER-COLOUR SOCIETY.

83 Pall-Mall.

THESE is no great novelty to record in the exhibition of drawings in this gallery for the present year. The figure subjects may first claim our attention, and, commencing with the numbers in the catalogue, we come to "Falstaff's Visit to Ford's House;" but the artist, Mr. Wehnert, is so completely over-matched by the difficulty of his subject, that we cannot compliment him on any success in the attempt, but he seems more at home in this "Interior of the Church of St. Michael, near Tenbury, Worcestershire." Mr. Lee's "Asking a Blessing," is clever, but the child in the foreground is rather affected in attitude. "The Welcome Draught," by the same artist, is better. Mr. Carl Werner does not exhibit a single drawing, out of his six or seven, equal to several of his last year. "Garibaldi in Sicily," seated beneath the ruins of a Norman church, receiving offerings of flowers and supplies from Sicilian peasants, is, we think, one of his efforts. "Oliver's Journey from Trauon's Talking Oak," by Mr. John Abolow, is extremely well drawn, and treated with great taste, and the drawing is equally good in his "Courtship of Gainsborough." "The Parting Gift on a First Desert Journey—A Mother's Sainted Ancestor," is one of those elaborate works which Mr. H. Warren generally exhibits at this gallery, consisting of Eastern travellers mounted on their camels, with one of those peculiar atmospheric effects which he is so successful in giving skill and taste. "The Card Trick," by Mr. L. Haghe, represents the interior of a guard-room, filled with idle soldiers, one of whom holding a pack of cards appears to be showing a comrade how the trick is done, and "The Salls d'Armes at Bruges," in which soldiers are fencing, are both good; but his most important drawing is entitled "Arnold of Brescia defending his opinion in the Consistory at Rome," and is a very fine study of the founder of a sect which opposed the wealth and power of the Romish clergy. The whole of this drawing is executed with more decision than we often see in designs by Mr. L. Haghe.

Mr. Henry Tidy exhibits several drawings of single figures, treated with refined taste both in the tone of colouring and the style of the drawing. "The Keeper's Daughter, Jewry," "The Light Side of Irish Life," "Karlina," and "The Lost of the Alcecorrales, from the French of Chateaubriand," are excellent in these respects. This last mentioned drawing contains several figures, and is the most elaborate work by this rising and talented artist exhibited in the gallery. Mr. Tidy created a sensation two years since by a poetical conception of "Queen Mab," and last year by an equally high conception from the poem of Dædalus, both of which are in the structure and the execution of the department of the French of Chateaubriand, are not long according to its merits. "The Charcoal Burners," by Mrs. E. Murray, Tenerville, is a Spanish subject, boldly executed. "The Bonnie Fish-wife," from the same hand, is a female of extraordinary dimensions, but whose dress is well painted; and the other production by this clever lady is "The Belle of the Market, Scilly," which wants more unity in the general effect.

The landscape and sea pieces are about as numerous as usual, and we perceived no falling off in their merits. Mr. Thomas Boys sends some pretty scenes of buildings. We noticed "Silver Street, Salisbury," "Hampton Court from Monks' Lock," "An Old House at Rouen," and several others, executed in his usually pleasing manner. There is a good imitation of fire in "The Conflagration near Westminster," by Mr. W. Well. The last picture is excellent, and the stone-work in the foreground well touched, in "Tintern, from the Porch of the Chapel on the Hill," by Mr. Chase. Mr. Rowbotham's view of "The birth-place of Masaniello," is an interesting scene, and is very elaborately executed. We, however, prefer the smaller works by this artist, on account of their being more directly derived from nature. Mr. Harrison deserves praise for the delicacy and refined style in which he has painted "The Flower of the Benedict's woodland," scenery sustaining his reputation, particularly the character he gives to his oaks overhanging the forest glade, and his waves breaking against rocks on the sea-shore, which have wonderful truth, and seem to fill the air with saline particles. We much prefer this masterly style of art, which reflects the impress of the artist's mind, as well as the general character of nature, to the photographic and individual truth recorded

in the drawings by Mr. Edmund Warren. They are no doubt marvels of close copying, displaying great powers of execution, much artistic skill in the choice of subject, truth in the vesting qualities of the atmosphere, as well as decision in the details of the foreground; and he sheds a quantity of light over the whole which gives considerable beauty to the effect; but still these views remind us more of the photograph and the labour of the artist than they affect us by the happy expression of his conceptions. Mr. E. Warren does not send so important a proposition as the "Wood Side" in the previous exhibition, and now in the English Water-colour Gallery at the International Exhibition. The "Hay-field," in the present collection in Pall-Mall, is the best of his contributions, having a very pleasing tone of colour and being less laboured in detail than some of his other drawings.

Mr. McKean has sent sixteen specimens of his industry and talents. "Under the Oak," "The Cornfield," "Oak Window," "Descent of the Cross," while the stateness of the water and the freedom of execution in the "Way Across the Brook," will also be admired. We think Mr. Fahy, the respected secretary of this institution, has been more successful than usual, particularly in his drawing of "Wimbor from Chewer Mews," the distance of which is well lit, and the foreground harmoniously coloured. A pretty piece of mountain scenery, by the same artist, will be found in the view of "Mittides, Cumberland." Of coast scenery, Mr. J. Philp is an excellent representative. There is good composition in his "Oyster Packing," with a luminous effect in the sky, and busy groups on the sands, the whole being well subordinated to unity of design. A pilot, with an excellent sea-view, entitled "A Dutch Boat-fore to the Hay," which possesses merit from the manner in which the figures on the beach are made to blend with the sky and to form a component part of the subject, instead of being rendered so distinct as to separate them from it—a mode of treatment we often see adopted, to the serious detriment of otherwise good pictures. In conclusion, we would direct attention to a very fine drawing by Mr. Charles Vacher of "The Marine Society." The distance is remarkably airy, and the long line of town, forming the principal feature in the middle distance, is very picturesque in its irregularity, harmonious and varied in colour, and comes luminously off from the mist-producing plain below.

In the "Old Society," as it is termed by way of distinction, there are 329 drawings, and in the New Society just concluded there are 333; it is therefore manifest that in these two societies many pictures are made, and unavoidably omitted; we must therefore recommend our readers to visit both the Societies and judge for themselves.

#### ST. JAMES'S NEW VESTRY HALL, PICCADILLY.

THIS building, now approaching completion, and of which we gave a view on another page, has been erected by the Vestry of St. James's, Westminster, for the purpose of providing a more convenient place for their late held meetings, in which to hold their public meetings; but chiefly for the concentration and more economical performance of that portion of the parish business which comes immediately under their control, and which, at much inconvenience and expense, has been hitherto conducted in several offices.

The committee under whose superintendence the building has been erected, having obtained designs, instructed their surveyor to prepare plans, and accepted the tender of Messrs. Mansfield. The work was commenced in the early part of the summer of 1861, by the removal of an existing building, one of the best structures, both as to materials and workmanship, that it has been the architect's good fortune to see.

The difficulties that arose in the arrangement of the building consisted mainly in the confined space that was available for the purpose; the architect having strict instructions to encroach as little as possible upon the churchyard, and that any encroachment really necessary should be on the ground-floor only, leaving the soil below as far as practicable intact. To accomplish this, there has been no excavation under the rear rooms, the external wall towards the Churchyard being carried on wrought-iron girders, with a massive relieving arch over them, finished with tile arches in cement on smaller girders below.

The style adopted for the elevation is Italian, to correspond with, though not to imitate, the exterior of the church, the architect having attempted to produce something that should be simple, bold, and durable; ere being taken that the character of a public building should be definitely given.

The materials adopted are red bricks and Portland stone. Instead of the bricks showing the arched round the reveals of the windows, a molding has been substituted. It may be mentioned that the architect's original proposition was to execute a double row nearly as at present in red bricks, including moldings and enrichments.

The extremely confined space, and there being very little available basement, required a great deal of study to provide in the plans all that was necessary, and at the same time to avoid the appearance of being cramped, always fatal to the arrangement of a vestry, on a large scale. The work has been satisfactorily accomplished, though it has involved an amount of work in the plans and sections not usually given in so small a structure, and which would hardly have been attempted by many.

Entering at the principal doorway in Piccadilly, in which some originality of detail has been attempted, a lobby with spring doors is provided, paved with plain tile arches, and divided into four bays by four plain pilasters; it has a semicircular ceiling and Welsh groins over the openings, two of these arches give access to the staircase, and columns are substituted for the pilasters. These columns have roage royal marble

shells in one piece, with Ionic caps and bases, executed in statuary marble, the cost of this being found not greatly to exceed that of scagliola, with cast-iron columns.

On the right is a room appropriated as a Savings Bank, and on the left the office for conducting the business of the Vestry, with the Vestry Clerk's private office leading from it. Opposite the principal entrance is the Rate Collector's Office. The hall and staircase has a second entrance from the churchyard. Underneath the landings and staircase, space for the necessary such as is contained in the vestry, by means of a small staircase.

Descending into the basement, formed of two long barrel vaults, previously existing and disturbed as little as possible, one only of which was available, we enter the Munition Room, about 18 ft. x 11 ft., having one of Clubb's fire proof doors, and a gate within, to allow of the door being opened to admit air; to check damp and provide ventilation, an air chamber is formed all round with air bricks; there is also an air duct opening in the crown of the arch forming the ceiling; the fittings of this room consist of slate shelves on half brick piers, the floor is paved with plain square tiles set diagonally.

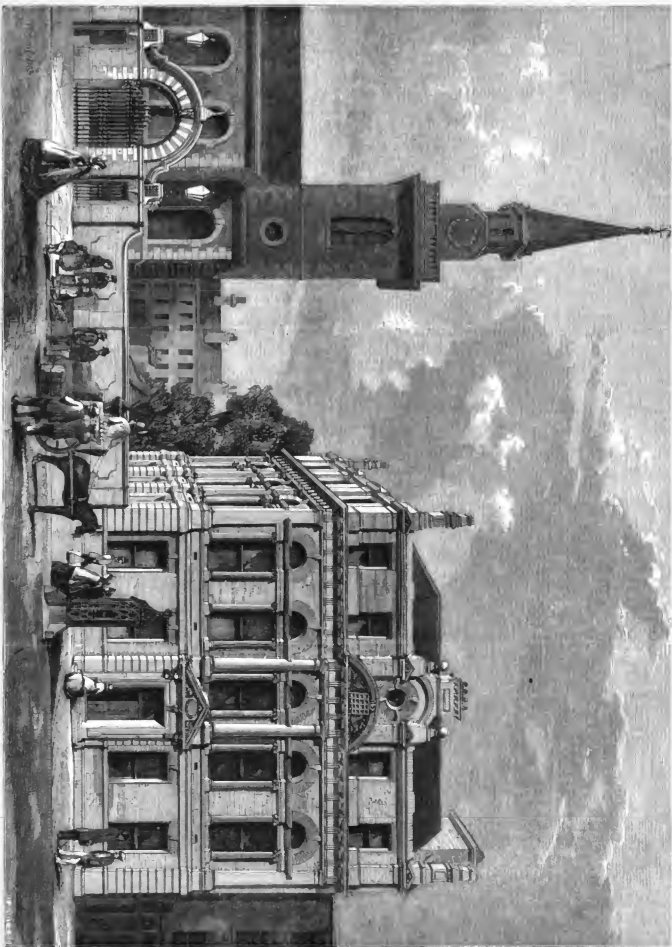
A large coal-cellar occupies another portion of the basement; and as the space under the staircase is available for a variety of purposes, such as gas experiments. A sink and water supply is also provided. The basement generally was constructed in the early part of the present century, and has been left as nearly intact as circumstances would permit. The first floor contains the vestry hall and a committee-room, the vestry hall being about 38 ft. x 28 ft., and 18 ft. high, with a small gallery over the entrance from the churchyard. The vestry hall is to be connected with the parish office, an arrangement that is in many ways satisfactory. This room and the committee-room have double sashes to all the windows, the inner ones being of waincot, the doors and other woodwork in these rooms, together with the whole of the fittings, being of the same material. The committee-room communicates with the vestry hall by a small passage; with the vestry hall, a waiting-room for deputations, &c. Leading from the landing, and vestry hall is a small retiring-room. This room has been obtained by throwing a wrought-iron girder across an angle and building on it. It contains a water-closet, urinal, and lavatory, and is finished below by small tile arches between iron girders, and above with a flat. Ascending the stairs, we reach the vestry hall, and the vestry hall is to be connected with the parish office. On a level with this is a small room obtained by keeping the floor of the committee-room and staircase landing a foot below the vestry hall, which, giving 10 ft. clear, allows a committee-room 10 ft. 6 in. high, and an intermediate room 7 ft. 6 in. high. This room is especially useful, as it is available from the first or second floor, and may be used with either. The windows of the vestry hall have cast-iron sashes, with a double pane, as in Kent's comment. The ceiling is to a certain extent "trussated," following the constructional arrangement with a deep eave and small groins formed round the semicircular windows. The enrichments in the ceiling are mostly perforated, and are connected with ventilating flues. A supply of fresh air is thus obtained by opening a series of flues. The committee-room is provided with corresponding arrangements. The fireplaces in these rooms are of marble, inlaid with Minton's tiles, in panels of a severe pattern. The ceiling of the vestry hall, forming the floor of the rooms above, is carried principally by two stout queen post trusses, with wrought-iron tie-rods, preferable, in the opinion of the architect, to iron girders. All the piers between the windows are carried up in Portland cement, more for the purpose of guarding against unequal settlements than for any additional strength supposed to be acquired thereby. A double or "Victoria" flooring has been adopted in the vestry hall.

The second floor provides accommodation for an office-keeper, consisting of a sitting-room, fitted with range, sink, &c. &c.; two coal-rooms, water-closet, and urinal, and lavatory, &c., all entered from a central passage, and a staircase from the rest of the rooms on this floor, which comprise one large and three smaller rooms, available for any purpose that may be required. The staircase has Portland stone spandril steps, and 6-in. Portland landings. Both the landings and steps are carried at the ends on wrought-iron girders, bracketed and plastered, and ornamented with tile arches against the walls. The windows will be glazed with coloured and ornamental glass. An enriched iron handrail, and mahogany capping, is continued as far as the Ratepayers' Gallery.

The main eistem is in the roof, supplying smaller ones near where they are required, the latter being also provided with independent services. The various water-closets, urinals, and lavatories are by Mr. Jennings, as are also the drain-pipes, and include his later improvements. The whole of the works have been most satisfactorily executed by Messrs. Mansfield, the amount of their contract being in round numbers £6,000.

The portion of the boundary wall to the churchyard, seen in the engraving, is part of an extensive series of works carried out under the superintendence of the rector and churchwardens, consisting of the churchyard wall and gateway, an alms-house for distribution of alms daily, also various necessary adjuncts to the church, as coal, coke, and dust sheds, waterclosets, &c. In addition to these new works, the parish engine-house has been rendered more available for its purpose, the various works pointed out and repaired, the new range repaired, the painted, the "Green Churchyard," towards Jermy Street is proposed to be completely renovated and rendered an ornament to the parish, instead of being a mere depository for rubbish as heretofore.

Mr. A. P. Howell, Surveyor to the Vestry, has designed and executed the building, alms and honesty secured by Mr. George Ellery as Clerk of the Works.



ST. JAMES'S VESTRY HALL, PICCADILLY.



## ARCHITECTURAL ASSOCIATION.

An ordinary general meeting of this body was held on Friday evening, at the Rooms, 9 Conduit-street, Regent-street; Mr. THOMAS BLASHILL, Vice-President, in the chair.

Mr. C. J. ANASTAS, hon. sec., read the minutes of the proceedings at the last meeting, which were found correct and confirmed.

**New Members.**—The following gentlemen, after a ballot, were duly elected Members of the Association.—Mr. John Eastby Goodchild, 22 Remington-street, City-road; Mr. H. J. Shepherd, 6 Prince-street, Chelsea; Mr. George Patrick, 18 Gloucester-villas, Loughborough-road, Brixton; Mr. T. Barker, 29 Offord-road, Barnsbury-place; Mr. John R. Gover, 7 Sydney-towers, Portland-place, Clapham-road.

**Nominations.**—The following gentlemen were nominated for membership:—Mr. Henry Louis Florence, 36 Brixton-place, Brixton-road (proposed by Mr. Brooks, and seconded by Mr. H. H. Mack).

The CHAIRMAN stated that Mr. Arthur Allom was prevented by unavoidable circumstances from reading the paper which he had intended to bring before the meeting that evening.

Mr. ANASTAS, hon. sec., read a circular from the Northern Architectural Association, having reference to a proposed Architectural Alliance of Societies throughout the United Kingdom, the first meeting in promotion of which is to be held in London on the 1st of July. (The circular appeared in our last number.) It was agreed that the subject of the circular should be taken into consideration at a future meeting.

The CHAIRMAN then read a notice appointed to award the prizes which had recently been distributed, as an report from the judges had yet been sent in, remarked that several of the designs for a town mansion were by very young students, and quite equal to what might have been expected from them, judging from their youth. The designs for tiles were very good, and indeed the judges were surprised at their general excellence.

The competitor, Mr. Mosley, sent in a design in two colours, and though it did not get a prize, yet some discussion took place among the judges whether a prize should not be awarded to it, only two colours being used, and it being a very good design. In designs for tiles it was desirable that very few colours should be used, owing to the expense of manufacturing them. The design in tiles by Mr. Winbridge was an exceedingly good one, and its adoption would be found very useful. As regarded the prize for wall decoration the competition was very slight, there being but three competitors, and that was not sufficiently strong to entitle to a vote of information and experience on the subject. He had brought with him two or three engraved copies of a drawing which he made a few years ago of a sepulchral slab, which he found in Mansell Gunninge, Herefordshire, and in which was a great deal of foliage executed in a most excellent manner. He thought that many gentlemen who make designs in which foliage occurred, did not sufficiently direct their attention to the effect of the foliage. The Chairman then proceeded to make drawings on the black-board, explanatory of the root, the stem, the leaves, the flowers, and the branches of various plants, and explained how most plants had a beginning and a growth.

Mr. R. O. HARRIS thought that a too strict adherence to botanical treatment in architectural design would lead them to forget the very best of the conventional treatment of the foliage of the past.

Mr. STRAS moved a vote of thanks to Mr. Blashill for the observations he had made on botany as applicable to architecture, and in so doing referred to some beautiful specimens of metal-work at the Great International Exhibition in which conventional foliage was introduced.

Mr. C. H. F. LARSEN seconded the motion, and said he thought that foliage, when introduced into architecture, ought always to be conventionalised.

The vote of thanks to Mr. Blashill was carried by acclamation, and the meeting separated.

## LIVERPOOL ARCHITECTURAL AND ARCHÆOLOGICAL SOCIETY.

THE fourteenth annual meeting of this society took place on Wednesday evening, at the Royal Institution, Colquhoun Street. Mr. J. M. HAY, the president of the society, occupied the chair.

Mr. W. H. WRIGHTMAN was elected president for the ensuing year, and Messrs. GOODELL and KILBY, vice-presidents.

A motion was carried that delegates be sent to London to attend a meeting of "The Architectural Alliance." Mr. Stubbs, Mr. Weightman, and Mr. J. M. Hay were elected the delegates.

The PRESIDENT, after alluding to local matters, including the death of his brother, spoke of

## STREET ARCHITECTURE.

The architectural aspect of our streets, said he, is improving. Our public buildings and palatial residences are gradually becoming the true and consistent exponents of the wealth and commercial greatness of the town; and no one can view with indifference the desire of our municipal government to open up new lines of communication, and to widen and improve the present unimproved thoroughfares. That the execution of such projects will be costly is true, but not more true than that their accomplishment will be vastly more expensive if delayed till it becomes an absolute necessity. I am glad to find that greater attention is being every day paid by architects, both Gothic and classic, to the sculptures and decorations of such projects, which are, however, whatever it is on its own account, is certainly an important auxiliary branch of architecture, and her mission is not fulfilled unless developed to the utmost in the embellishment of architecture. Sculpture, as well as painting, were created, or at least chiefly created, for the service of architecture, which may justly be considered as the mother or elder art; and without the cells she has from time to time made upon them, the great master-pieces of painting and sculpture, the frescoes and arabesques of Angelo, Raphael, Da Vinci, and Correggio, would

probably never have had an existence. Both sculpture and painting have ever, indeed, yielded their grandest efforts in combination with architecture. In the greatest styles of the world ever seen—the Egyptian, the Assyrian, the Greek, the Byzantine, the Gothic, and Italian of the *Quattrocento* period—the outlines of the three arts was at its highest pitch; and the greatest works of painting and sculpture were produced as architectural embellishments. Michael Angelo, Raphael, and the great masters, were wall and ceiling painters to their contemporaries. Painting, sculpture, and architecture are indeed the three branches of our art which, divided, are comparatively weak and meaningless, but united appear in their full strength, and yield their sublimest tones, "their grand consummate harmony." It is the architect, then, the evidence that the great styles have referred to thus considered them, and made them enter and enter into each other, and thus they may ever do. While architecture inspires the sculptor, sculpture may be regarded as the interpreter of architecture, to which it imparts more vivid and distinct expression. There was a time when the chief architects knew more about sculpture than architecture, and created the greatest works of the three architects. I refer to the great period ushered in by the revival of art in Italy before alluded to. These great artists I know have been cried out against as having too much subjected architecture to the requirements of sculpture; and, indeed, it is true that they introduced, and gave energy to many magnificent advances, both in composition and detail, but it is also true that they greatly advanced architectural design by their mastery application of sculpture and painting to its enrichment, and by the thorough indissoluble combination of the three arts in many a successful and glorious conception. In their hands, architecture regained much of what she had lost in the hands of the ancient Romans—if not all the purity and delicacy and finish of the Greeks, at least nearly all of the completeness, and much of the refinement of form, which had given place, in the hands of the Romans, to the greater strength and more richness, as more in harmony with the sentiments and character of that magnificent people. The greatest event of the present year is the International Exhibition, which was inaugurated last week with all the pomp and splendour that rank and wealth could command. What a marvellous collection of the art and industrial products of every nation and of every clime is open to the world. It forms, as it were, a mighty volume, on whose pages are inscribed instruction for every class and condition of men, from the philosopher and artist down to the humblest domestic mechanic. Even the mere holiday-seeker, who idly wanders through its galleries with the eyes and mind half-drawn, will carry home with him some vague impression of the might and majesty of intellectual power. But to the earnest thoughtful soul, the results of such an Exhibition will be incalculable. It is a grand competitive contest on a universal scale, where the ambitious ambition of nations is engaged in the pursuit of science and happiness of the whole human family. It is the development of the grand principles of free trade into the higher phase of the free interchange of thought, tending towards the perfection of every product of art and ingenuity. I am glad to know that the best of our art is so well represented in this Exhibition, and that the models and designs sustain in so high a degree the architectural reputation of our countrymen.

After allusion to the late Prince Albert, the PRESIDENT gave some good

## REGUCTIONS TO STUDENTS.

Let me, said the PRESIDENT, again impress upon the mind of the student at the breaking up of the session the necessity of regarding the instruction he gains here as only one subordinate and elementary means of raising himself into the dignity of an architect. No teaching is complete, or indeed of any avail, until the pupil becomes his own teacher, and no teacher, and no school, can afford to passively. Every true architect, strange as it may sound in your ears, though he may have passed a dozen apprenticeships, and been educated by royal or imperial chivalric academies, is in reality self-taught, because he cannot become an architect but by practice, which no external appliance is in itself sufficient to create. It is your own thought that must render all instruction vital, convert all material into intellectual chyle or blood for the nourishment of the mind and imagination. Without thought it is all a dead letter and of no value. It is thought on the part of the architect that lies at the root of the greatness of Greek and mediæval art. Were Government to endow this society with a rich income, and appoint the most eminent professors to lecture weekly to you from this chair, the secret of its strength must still be in the activity of your own minds. Art will come at the aid of a legitimate progress in English architectural history in Greece. Earnest thought and diligent practice are what is necessary to bring out the hidden might of architecture and of its professors. It is this that will drive you to make proper use of every means and appliance rightly to supply the elements and principles of the past, and which has rendered it. It will lead you to look to the remains of the past in a spirit of metaphysical induction rather than of that literal and physical imitation which has strewn the land with mere copies of ancient examples. You have every motive for exertion. Every consideration to inspire confidence in your ambition may be drawn from your own position and prospects. Architecture is something more than a study of the arts, and when it has duly drawn upon the resources still possessed in the kindred arts of design she is clearly entitled to the epithet. Certainly there are so-called teachers of the painter or sculptor can call up such emotions of the sublime as many architectural works which could be hardly called beautiful. The Parthenon and Erechtheum; the mosque of St. Sophia; the cathedrals of Germany, Spain, France, England, Italy; the Alhambra; the Indian tombs and palaces; St. Peter's, St. Paul's. But the Gothic cathedrals alone are an evidence of the grandeur of the human mind, and of the sublimity of the sublime beyond any other art of man. The towering pillars and arcades forming and supporting the long drawn aisle and fretted vault, symbolising at once eternity and immensity; the ever recurring, ever varying vista and expansion of the interior upon the exterior, and the endless variety of the deepening shade; richness increasing richness, fill the mind with an awe and amazement that few of the works of the Creator could increase. Let us not suppose that architecture is effects, that she died in giving birth to those prodigies, that she is the age, and the age is the work of architecture. She is not dead, she is thoroughly understands the principles of architecture, and has an adequate measure of inventive power, will be able ever to apply them to new embodiments that new wants and occasions call into existence, making submission to

their dictates a further opportunity of ringing the changes upon the beautiful and true—Gentlemen, professional men, associates, and students, in addressing you for the last time from this chair, I cannot but refer to the great pleasure I have experienced in attending your sessions here from first to last. To me, I think, benefits I have received are great—those which have conferred are small. I have, however, the gratification of handing over to my successor the interests and conduct of this society not less valuable nor less useful than they were when I was entrusted with them, but, above all, the full conviction that I will more worthily represent the interests of the society than I myself have done.

The proceedings terminated by votes of thanks to the various officers and the council.

#### THE NEW CAVALRY BARRACKS AT COLCHESTER.

THE erection of these barracks, for which a considerable amount was appropriated by Parliamentary grant early in the present Session, has now been fairly commenced by Messrs. Lucas, Brothers, the contractors for the works. The erections will be solid and permanent. The walls will be built of red brick externally, and of the uniform thickness of 18 inches.

The principal block of buildings will be that used by the officers, which is in the form of a quadrangle 151 feet in length, having wings 71 feet in depth, the mess-rooms will be built. This room will be 50 feet in length by 24 feet in width, having a capacious ante-room, with kitchen and mess men's quarters, and eight rooms in the rear, with extensive cellars. The entire ground floor of the other portions of the quadrangle will be devoted to the servants of the officers; whilst on the first floor, right and left of the mess, will be the quarters of the commanding and field officers, and the sitting-rooms and bed-rooms of the officers. The second floor will be devoted to the same purpose, except that the large side and rich apartment, and the crochets are bunches of flowers and leaves in iron-work of singular beauty. Within this canopy is an ample panel of the pointed vase form, surmounted by a circle. The cupings and traceries and the lower panels of all the arches are delicately carved in iron-work, wrought with such marvellous refinement of treatment that the whole may be styled a mass of iron filigree. Equally delicate and skilful is the treatment of the capitals and corbels, which, with the cornice and many of the details, are executed in copper, beaten out of the hammer after the early manner from the sheet of the metal. In part closely studied from natural forms, and in part happily adapted to the purest Gothic conventionalisms of foliage, these copper capitals show how completely Mr. Skidmore is master of the medium in which he works, and how he has been able to deal with equally gratifying results, both as examples of metal-work of the highest order and as noble pieces of architectural detail. The four main arches of the screen, two of which are on either side of the central canopy arch, like the latter, are of the same design, their spandrels more richly traceried. The whole is surmounted by a frieze and cornice, the whole being crowned by a parapet covered with scale-like bracken tiles. At present the ridge is quite plain, but ultimately will probably receive a low, but whitely glistening cresting, with pinnales to mark the points of division between the arches.

At Lichfield, on either side of the central arch, are four figures of angels, one of them standing in front of the spandrel between each pair of the arches of the arcade; and these angel figures represent a celestial choir, all of them being equally engaged in playing on instruments of music or of song. In the Hereford screen a group of two angelic figures, winged with wings of the most unearthly fashion, stands as in adoration, boldly corbelled out from above the capitals of the clustered jamb-shafts of the central arch; and, at either extremity of the composition, placed in a similar position, a single figure of a winged angel appears to be playing upon a musical instrument. In the centre of the whole, supported by a corbel that rises gracefully from the capital of the slender central shaft, there stands a figure of the Saviour as the act of resurrection. Beneath His feet, entwined amidst the foliage of the capital and the corbel, are bunches of passion-flowers, tenderly wrought in copper.

Like the Lichfield angels, all these figures are executed in copper, which will retain the rich natural colour of the metal. In this manner, all the details that have been produced in the same metal retain the true colour of the metal. The brass-work is everywhere banished; and where it comes into contact with the sparkling masses of mosaic, its surfaces are studded with jewels. The iron all painted black, the gliding, sliding, turning, and the apparatus of a spurring hand. The colours, with the sole exception of the greens, are all oxidized of iron, and thus they may be assumed to be the natural colours which iron itself should receive from the artist. The whole of the coloring has been most carefully studied, so that when it is seen in the light of the cathedral it will unquestionably produce an eminently beautiful effect.

With the screen there will be associated in Hereford Cathedral a large and splendid gas corona, and also two standards, all of them of the same iron filigree and of the same design. In the great central canopy, placed above the altar to the northward of the screen, and one of the standards is grouped with three others, that are severally destined to give such light as may be given by gas-jets in the cathedrals of Lichfield, Norwich, and Calcutta. The ready facility with which Mr. Skidmore adapts his more elaborate designs to the necessities of service, and his unwavering fidelity to true architectural art, are vividly shown in these productions. While most happily suited for gas lighting, both standards and corona are true in every detail to Gothic feeling. The corona is indeed a work of unusual beauty, and, in its construction, it is a fine example of the composition of three tiers of arches which diverge about a central shaft. The arches are elaborately traceried, and the corner-like circle from which the lower arches spring, similarly enriched, is studded with clusters of gas jets, and the large scale pieces of iron and steel which are used in its construction will not fail to enhance the effectiveness of the gas illumination. In addition to the circle of jets, seven standards, rising at right angles to them from as many rafting pipes, surround the whole, and are crowned each with its own cluster of jets.

TOTAL ABSTAINERS' PARK, GLASGOW.—The Abstemious' Union in this city have leased and opened a park opposite Kelvin Grove, containing nearly forty acres, portions of which they have drained up in a neat manner. A gymnasium and quiet-ground have also been provided, besides accommodations for all sorts of games.

#### THE HEREFORD CATHEDRAL SCREEN IN THE GREAT EXHIBITION.

LAST year, says the *Daily News*, was at the crowning work of the restoration of Lichfield cathedral, a new choir-screen was executed by Mr. Skidmore, in metal-work, after designs by Mr. Scott. This screen, then the most important example of modern architectural metal-work, produced a magnificent success. It had no equal indeed, because it was alone amongst the choir-screens of our cathedrals, as a work exclusively of iron, and brass, and copper; but then it also stood as rivalry on the high ground of its own artistic and architectural merits. Successful experiment was made; and it was conclusive as a demonstration both of the admirable qualities of metal architecture and of the ability of living English architects and artists to work in the metals. The Lichfield screen, however, has not long been left to vindicate, amongst ancient architectural capacities of iron and iron alloys. Mr. Scott has for some time been intrusted with the restoration of Hereford cathedral, and in January last his suggestion was approved by the Hereford dean and chapter, that the required choir-screen should be executed in metal-work for this year's exhibition, and that the Lichfield screen fresh in his remembrance, Mr. Scott again placed his drawings in the hands of the distinguished architectural metal-worker of Coventry.

Mr. Skidmore at once entered upon this new work with the most determined energy; and, notwithstanding the short space of time that was before him, he undertook to place the Hereford screen in the Great Exhibition, as an example of the finest metal architecture of the present time. In its general design, as to the south of the eastern dome, this noble work now stands—not quite complete in certain matters of minor detail, and necessarily deprived of all the felicitous associations that will gather thickly around it in its ultimate resting-place beneath the choir-arch of Hereford.

It must be borne in mind that this screen has been designed to take its place in one of our cathedrals in our own times, and with a view to the requirements not of the era of the Plantagenets, but of that of Queen Victoria. It has been purposely constructed, therefore, of open work, which must be seen from the interior of a cathedral without at all shutting off one of them from the other. When in its proper place the two extremities of this screen will abut upon the walls of the choir, and thus the entire work will assume that appearance of a permanent screen, for which it was designed. The composition, while equally true to the Gothic style and equally consistent with the character of a cathedral screen, in its treatment differs altogether from that of the kindred work at Lichfield. It is an arcade of five arches; but each arch is divided into two sub-arches, in that there are three orders of secondary arches, as well as a like number of primary arches. The central arch, which forms the gateway, is of bolder proportions than the rest, and it is surmounted by a lofty pedimental canopy, acutely angled, and having its slopes formed of straight iron-work. The principal structural members are for the most part all of iron. The shafts of the first order are partly of brass and partly of iron; and the smaller shafts are entirely of brass. The sweeps of the arch-bands are also of brass, splendidly enriched with vitreous mosaic in bold and most effective manner, and the traceries of the canopy and of the central arch are of the same material. The large side and rich apartment, and the crochets are bunches of flowers and leaves in iron-work of singular beauty. Within this canopy is an ample panel of the pointed vase form, surmounted by a circle. The cupings and traceries and the lower panels of all the arches are delicately carved in iron-work, wrought with such marvellous refinement of treatment that the whole may be styled a mass of iron filigree. Equally delicate and skilful is the treatment of the capitals and corbels, which, with the cornice and many of the details, are executed in copper, beaten out of the hammer after the early manner from the sheet of the metal. In part closely studied from natural forms, and in part happily adapted to the purest Gothic conventionalisms of foliage, these copper capitals show how completely Mr. Skidmore is master of the medium in which he works, and how he has been able to deal with equally gratifying results, both as examples of metal-work of the highest order and as noble pieces of architectural detail. The four main arches of the screen, two of which are on either side of the central canopy arch, like the latter, are of the same design, their spandrels more richly traceried. The whole is surmounted by a frieze and cornice, the whole being crowned by a parapet covered with scale-like bracken tiles. At present the ridge is quite plain, but ultimately will probably receive a low, but whitely glistening cresting, with pinnales to mark the points of division between the arches.

At Lichfield, on either side of the central arch, are four figures of angels, one of them standing in front of the spandrel between each pair of the arches of the arcade; and these angel figures represent a celestial choir, all of them being equally engaged in playing on instruments of music or of song.

In the Hereford screen a group of two angelic figures, winged with wings of the most unearthly fashion, stands as in adoration, boldly corbelled out from above the capitals of the clustered jamb-shafts of the central arch; and, at either extremity of the composition, placed in a similar position, a single figure of a winged angel appears to be playing upon a musical instrument. In the centre of the whole, supported by a corbel that rises gracefully from the capital of the slender central shaft, there stands a figure of the Saviour as the act of resurrection. Beneath His feet, entwined amidst the foliage of the capital and the corbel, are bunches of passion-flowers, tenderly wrought in copper.

Like the Lichfield angels, all these figures are executed in copper, which will retain the rich natural colour of the metal. In this manner, all the details that have been produced in the same metal retain the true colour of the metal. The brass-work is everywhere banished; and where it comes into contact with the sparkling masses of mosaic, its surfaces are studded with jewels. The iron all painted black, the gliding, sliding, turning, and the apparatus of a spurring hand. The colours, with the sole exception of the greens, are all oxidized of iron, and thus they may be assumed to be the natural colours which iron itself should receive from the artist. The whole of the coloring has been most carefully studied, so that when it is seen in the light of the cathedral it will unquestionably produce an eminently beautiful effect.

With the screen there will be associated in Hereford Cathedral a large and splendid gas corona, and also two standards, all of them of the same iron filigree and of the same design. In the great central canopy, placed above the altar to the northward of the screen, and one of the standards is grouped with three others, that are severally destined to give such light as may be given by gas-jets in the cathedrals of Lichfield, Norwich, and Calcutta. The ready facility with which Mr. Skidmore adapts his more elaborate designs to the necessities of service, and his unwavering fidelity to true architectural art, are vividly shown in these productions. While most happily suited for gas lighting, both standards and corona are true in every detail to Gothic feeling. The corona is indeed a work of unusual beauty, and, in its construction, it is a fine example of the composition of three tiers of arches which diverge about a central shaft. The arches are elaborately traceried, and the corner-like circle from which the lower arches spring, similarly enriched, is studded with clusters of gas jets, and the large scale pieces of iron and steel which are used in its construction will not fail to enhance the effectiveness of the gas illumination. In addition to the circle of jets, seven standards, rising at right angles to them from as many rafting pipes, surround the whole, and are crowned each with its own cluster of jets.

TOTAL ABSTAINERS' PARK, GLASGOW.—The Abstemious' Union in this city have leased and opened a park opposite Kelvin Grove, containing nearly forty acres, portions of which they have drained up in a neat manner. A gymnasium and quiet-ground have also been provided, besides accommodations for all sorts of games.

## POTTERY IN THE INTERNATIONAL EXHIBITION.

**A**FTER a rapid survey of what has been as yet unveiled by exhibitors of pottery and porcelain, both British and foreign, in the International Exhibition, we must confess to feeling on the whole, a justifiable pride in the productions of our pottery towns. Just step into what is decidedly the best-arranged china establishment in the Exhibition, that belonging to Messrs. Minton and Co., of Stoke-upon-Trent. Glance at those divine little vases of Celadon china, with their delicate white cords and lovely leaves. There is one of those vases which is not quite so charming as the others. Its beauty has been marred by a quantity of tasteful, but in the manufacture of majolica vases this firm is clearly unapproached and unapproachable. Many of their articles are, indeed, magnificent triumphs of the potter's art, but some few of the designs are singularly repulsive. There is a huge vase adorned with villainous-looking satyr's heads. The spectator turns with disgust from those vicious, pallid faces, those horrid pale-pink lips, and ugly protruding pale-pink tongues. There is a grand pair of porcelain vases with large, lolly-padded wreaths of roses and handsome snake handles, to which the hue of dead gold has been imparted. These are rather heavy and stylish articles, and are much admired, but their design is very faulty. It is not well to let our eyes travel beyond the lower limits of the vase. That large and beautiful article of those lovely rams' heads looking forth from its sides, is poised upon the shoulders of some three or four pretty little children, whose faces cannot be seen, for they are bent earthwards. All this is positively painful. When you see Atlas carrying the world on his shoulders, you glance at the lusty fellow's splendid muscular development, and have no fears that the huge ball will break his spine and crush every square inch of his body. But here the idea is very different. The little vase-bearers are mere babies, and should be flying about in a carriage drawn by doves instead of groaning under a huge burden of porcelain.

Etruria is well represented in the Exhibition by the grandson of the celebrated Wedgwood. The manufacture of those beautiful vases of light-blue Jasper has only recently been revived. They were not in fashion, it seems, for some twenty years or so. There is a large specimen with lovely white bas-reliefs, representing a sacrifice, and some fine heads of goats and wild boars, with magnificent borders of oak and laurel-leaves. It is the largest thing of the kind ever made, being three feet high and two feet across at the top.

Alderman Copeland's collection of Parian figures is surpassed by that of no other exhibitor. We particularly direct attention to the statuette of Beatrice.

"With regal step, and look wherein disdain  
Widest, when she did stand;  
(Like one who doth her bitterest talent retain)  
'Tis, I am Beatrice—regard me well!"

In the Alderman's glass cases are to be seen some exquisite specimens of landscape-painting on porcelain.

The French courts, especially that devoted to the exhibition of articles from the imperial manufacture of Sevres, is particularly rich in that beautiful description of porcelain called Celadon, to which we have already called attention. Celadon, on account of its exceedingly brittle nature, is very difficult to manufacture, and in France, indeed, is made only at Sevres. The specimens here exhibited consist of several large vases, very graceful in form, like most objects of art turned out by our highly artistic artists across the Channel. The following is the process employed. First, the vase is modelled, and the figures put on with a brush. Then the vase is put into a glaze, after which it is gradually and tenderly introduced into an oven. Just look at those raised white figures on that fine stone-coloured ground. Place a light within the vase, when the shades of evening have fallen, and vase and figures will suddenly assume the loveliest of rose-coloured tints. In M. Hadrot's fine collection of porcelain we were particularly struck with some beautiful articles in Celadon which had been made for the Emperor and Empress of the French. These consist of an oval vase and two lamps. On one of the latter is finely painted the head of Napoleon III.; on the other is an exquisite likeness of the Empress Eugenie. The price of the Imperial lamp is only 25 francs each.

In the porcelain exhibited by M. Jullien there is an exquisitely beautiful tea service in what is styled metallic glaze, and an equally beautiful coffee service in metallic enamel. We confidently predict that during the months of May, June, July, August, and September, aigh enough to turn a mill will daily be brewed from the lips of those delicious bits of china. We earnestly recommend the exhibitor to those who do not better after them than he has hitherto done, or some day he will be returning to his stall, find himself the victim of some fair porcelain kleptomaniac. Amongst the Sevres porcelain we noted a pretty vase, of the celebrated colour styled *Rose du Barri*. This colour is painted on. Limoges exhibits some fine pieces of china. A magnificent set of construction plates and dishes is one of its most noteworthy contributions. M. Pouzet, from that quarter, exhibits a collection of plates, cups, saucers, teapots, &c., in a beautiful white porcelain, which is totally without flaw, and almost transparent.

Some of the best imitations of the strangest sort of Palissy ware are to be found under the French flag. Most readers know how fond that enthusiastic designer, Bernard Palissy, was of constructing plates and dishes representing the bottom of the sea, covered with shells, peldies, and seaweeds, fishes and snakes, and how he gave to those plates and dishes with their contents the name of rustic pieces; and also how speedily this strange species of ware became the fashion in France and England. We strongly

recommended a visit to those imitations of Palissy. Perhaps the strangest article of the lot is a large oval looking-glass with a frame which would have delighted the great Bernard himself, covered as it is with lizards, fishes, tortoises, marine plants, frogs, beetles, sea shells, and surmounted by a naked little urchin who lustily blows his conch. Underneath the fish and reptile mirror are a great number of plates and dishes which swarm with creatures of a bright green colour. In the third and last of our dishes of predilection a well-developed peacock, wonderfully natural in form and colour, is the piteous creature of attraction, and decidedly will be observed of all tasteful observers.

From the great manufactory of Dresden china, at Meissen, we have a very large display of vases and human figures. In the vases every detail is carefully given; but there is a remarkable superabundance of ornament. In this Saxon department there are some prettily-shaped but badly coloured lace figures. We were much struck here with a cup, cover, and stand of candy-coloured porcelain. The colour is singularly even. Our very old friend, the Chinaman, represented in the act of singing and accompanying himself on a musical instrument, confronts us under the Saxon banner. His wretched mistakes, his "rattling" and "clattering" are so expertly marked as usual, and he still wears his old coat of that peculiar reddish brown hue which we have never seen in any porcelain save that of Dresden. Opposite him is his wife, as submissive looking and uninteresting as ever. After visiting the old rags-bag Chinaman, let not the reader forget to glance at those pretty ware bottles of terra-cotta, ornamented with raised figures, not very remarkable for their execution.

In the Berlin collection there is some very perfect painting on porcelain. We strongly recommend our English manufacturers to have a look at the beautiful colours, more especially the greens and blues, for which the Prussian china is remarkable. The Berlin vases want, as a rule, that lightness and delicacy for which the French vases are pre-eminent. But no one can pick a hole in the splendid Parian nautilus shell, with its lovely mermaid supporters.

In various courts, both British and foreign, there are to be seen exceedingly elegant imitations of Greek and Egyptian vases. We are surprised that no ingenious and enterprising manufacturer has thought of copying a few of these clay vessels, prepared many centuries before the Christian era, in the hand of the Assyrian potter, and lighted on some years ago by the indefatigable Mr. Layard in the palace of the mighty Sennacherib. The industry of that prince seems to have consisted of at least 2,000 brick volumes of various shapes and sizes, many of them fashioned like cylinders, not a few six-sided, and for subjects relating to all manner of things. There were to be found, primers in clay, old almanacs in clay, review (stamps of course) in clay; love letters and business letters in clay; history books in clay. These old bricks, according to that most erudite of antiquaries, Mr. Samuel Birch, are composed of clay and straw, and were dried in the sun.

## CHURCH, CHAPEL, AND SCHOOL BUILDING.

**READING.**—The conveyance of the Gryffyn's Church here, for many years used as the town Bridewell, has been executed by the Corporation, with the consent of the Lords of the Treasury, to the Rev. W. W. Phelps, who has collected half the £10,000 required for its restoration.

**SOUTHAMPTON.**—The foundation stone of a new church has just been laid at Ecclefield, Southport, by Lord Skelmersdale. The building will accommodate about 1,000.

**HYTHE.**—Mr. Elex is about to restore the Church of Spaldwick in this county. It has some good points—three screens in original position, separating the nave and chancel, the aisles and chantry chapel, and the chapel and chancel. There remain traces of the roof loft on the jambs of the chancel arch, and two sixteenth century seats remaining, together with some Norman mouldings.

**OXFORD.**—The new church of St. Giles's was consecrated a few days since. The style adopted is the Gothic. The plan embraces a nave, with an aisle on each side; the chancel, formed under the tower, with an apse at the east end; and north and south transepts abutting from the tower. The tower stands on the north side. The approaches are from the west end, a path leading to the south aisle, and a door in the west end of the north transept. The entry is at the east of the nave, between the apse and transept, and is intended to be surmounted by a lofty spire. In the interior are some peculiar features. The columns supporting the clerestory walls are solid blocks of polished Aberdeen granite. The groining in the chancel roof is in bands of different coloured stones, and the walls are of polished Devonshire marble columns. The same kind of columns are also used in the sedilia, and in the windows of the aisles. The roof of the nave is arched with plain boarding and moulded ribs, the only timbers showing being the cross-beams and ring-posts. The roof altogether is by no means plain, being decorated with painting in bands and panels of brilliant colours. The height of the roof is 20 feet. The floor is of the same height as the walls. The colouring and designs, the chancel being of Milton's canonic work. The tiling is also used against the wall of the apse to the height of the window-sills. The altar, of oak, stands against a stone wall, intended to support the reredos. Oak screens, in connection with the choir stalls, are placed

across the transept. The pulpit is in stone, marble, and alabaster. The font is of different-coloured stone, elevated on a floor laid with ornamental tiles and marble squares. The cost, up to the present time, has been about £7,000, leaving the earthenware and spirit to be provided for. There will cost nearly £2,000 more. The architect is G. E. Street, Esq., London; the builders, Messrs. Joseph Castle, of Oxford.

**YOAKSTON.**—Aberford Church has just been re-opened, after undergoing the process of restoration. The design is Mr. Salvin's, and is in the early decorated style. The building is entered by a porch on the south. The windows are all decorated with corbels. The east window is of stained glass. The pulpit is of Caen stone, on short pilasters of Cornish serpentine marble. The north and south aisles are separated from the nave by colonnades, which contain four pillars and arches. The nave is lighted by sixteen clerestory trefoil windows; the north aisle by four two-light windows, while the south has a larger number, owing to the presence of two doors. The roof is open, of light appearance, the timber stained and varnished. The whole is supported on corbels and ribs, forming circular arches. At the west end of the church, there being no arch into the tower, is a small and light gallery. The expense of restoration has been about £3,000.

**WESTBURY-ON-TRE.**—The beautiful reredos, which is carried round the apex of the chancel of the Church of the Holy Trinity, SS. Peter and Paul, in this place, is now uncovered. The following description of this work of art we call from a local contemporary:—"The stone-work was finished about this time last year, and consists of a large central panel, containing 'The Last Supper,' carved in high relief, adapted from the great fresco, by Raphael, in the suppressed monastery of SS. Onofrio, at Florence. This occupies the whole of the upper portion of the panel, and is beautifully canopy, surmounted by a figure of 'The Good Shepherd.' On either side of the apex is an arcade of four arches, with recessed panels. Colours have been very sparingly introduced into the central subject, as the bold relief of the sculpture does not require such addition. The nimbi of the heads are gilded, as well as the dispersed background. The first and second tables of the decalogue are introduced into the first and third panels on the north side, and the Creed and the Lord's Prayer into the first and third panels on the south side. The lettering is of a distinct character, with illuminated and gilded capitals, and other ornaments introduced. This occupies four out of the eight panels. The ground-work of the remaining four panels is coloured with rich diaper work, and two large medallions painted in each. The western panel, on the north side, is the key of David, as being the emblem of the dedication of the church, and the pelican as emblematic of the atonement. The opposite panel on the south side has the Agnus Dei, and the monogram of the sacred name. The four medallions in the centre of the eaved side of the apex have the symbols of the four Evangelists. The buttresses, cupings, crocketings, Tudor bow-crookings and angel-draughts, surmounting the arches, and the key of David, harmonise with the general effect, relieved with gold, properly used in the upper portions of the work, in order to reflect the light which falls upon them, produce a general rich and brilliant effect, which, blending with the four beautifully painted windows by O'Connor above, form an admirable continuation of colours. This arrangement of colour is in strict accordance with the practice of treating works of a similar character in our ancient parish churches, and that something of the sort did exist at Westbury church is proved beyond doubt by the number of fragments of alabaster figures, richly painted and gilded, discovered beneath the floor of the chancel when it was repaired. The modern roof is the only part which detracts from the beautiful appearance of the chancel, being of painted deal, and of a poor and miserable design." The whole of the works carried out in this church have been under the direction of John Norton, Esq., architect, of 24 Cold Bond Street, London, and Park Street, Bristol. The colouring and decorating the reredos were entrusted to Mr. Castell, of 46 South Moulton Street, London. The stone work and carving are by Farmer, of London.

**HERSCYR CHURCH.**—A subscription, headed by the Bishop of Oxford, has been set on foot for the reconstruction of this church, which is one of the largest in the diocese. It is contemplated to take down the whole of the galleries, restore the chancel, re-seat the church with open pews, and to introduce a stained glass window or two. The cost is estimated at £3,000, about a half of which sum has already been subscribed. We hear that the plans of Mr. Beatty, of the diocese, have been adopted, and trust that every dutiful son of the Church will aid in the good work.

#### SCHOOLS.

**STAFFORD.**—The new Grammar School here has just been finished. It is built in a modified Gothic style, of brick, with white stone dressings. The rector is divided into two chambers—each apartment being about 70 by 30 feet. The roof is of open timber, and of considerable altitude. The windows are large, and shed a flood of light and cheerfulness in upon the scholar. Mr. Ward is the architect, and Mr. Epley the builder. Its cost is about £3,000. We may also add, that the master's house adjoining contains several special classrooms. On its top story are sleeping apartments for boarders, having direct communication with the dormitories of a winding staircase in a little bell-turret at the side of the building.

**KINGSLEY AND WHISTON.**—The trustees of the endowed schools at these places are about to erect new school buildings. In the first the buildings comprise schools for boys, girls, and infants, with classrooms; residences for both master and mistress, and play-grounds and conveniences for each school. In the latter place the school and residence for the mistress will be erected. The architect is Mr. Sugden, of Leek.

**ABERDEEN.**—A few days since the foundation-stone of a memorial school was laid, in connection with the church of St. John the Evangelist. It will be called the Chynne School, will be erected in the Gothic style (so as to be in line with the church), and will cost £13,000.

**SCARBOROUGH.**—Last week the foundation-stone of a new Sunday-school, in connection with the Bar Church, was laid. It will be twice the size of the former one, and, with the site, will cost over £1,000.

#### SCIENCE AND ART DEPARTMENT.

**ON** Friday last the House of Commons went into committee and supply. On the vote of £5,656 for the statue, an interesting conversation took place. After Mr. Addley, Mr. Lowe, and Mr. O'Connell had made some observations on the Museum of Irish Industry and Sir Robert Kane, Mr. Dillwyn said he doubted the propriety of soliciting the public money for schools of art, however useful they might be in themselves. He doubted the advantages of government aid in promoting art. That art and manufactures had advanced of late he had no doubt; but it was due, he believed, to the impetus given by the Exhibition of 1851, and which was being repeated in the Exhibition of the present year, and the competition thus occasioned, rather than to any direct government aid in the shape of art schools. He therefore proposed that the vote should be reduced by the excess on this account over the vote of last year. He moved to strike off from the total sum of £7,106 the aggregate of excesses on various items which he referred to—£1,500. Mr. Seymour supported the amendment, reminding the committee that if they determined to confine the vote to the same amount as last year, no harm could be done, as the department had now in hand a balance of £22,000. With the exception of the agreement upon the subject of education, the result of the vote was considered that it was most inconsistent on their part to ask the committee to increase the expenditure under this vote. He doubted very much the expediency of the expenditure upon the photographic department. Mr. A. Smith, however, in reply to the complaint of the amount of the vote, said: "He thought all the government ought to do with regard to science was to purchase collections and place them in museums."

—Mr. Black thought the state was taking up at that which ought to be done by parents of the higher ranks themselves in the education of their children. He was, therefore, prepared to vote against the sum for science and art.—Mr. Blackburn also opposed the vote.—Mr. Lowe said it had been the pleasure of the house to fund this department of science and art, and the only question was whether it ought to have been answered. He felt that the question of art as it is asked where the designs of Copeland and Minton originated? Where the designs of terra cotta at the Horticultural Gardens? The design after Luca della Robbia? Why, in the designs of the students of the art schools. Where the designs of the Royal Academy? The first lesson of the students of the schools of the Science and Art Department. It was complained that this vote was increasing. That was the very merit of it. If the principle were a wrong one, let it be altered. But, so long as they adhered to the rule laid down, there was no objection to the increase, especially in the case of the students of the country schools of examples and diagrams of art, and the expenses of the carriage and package of those articles in the preparation of photographic apparatus. With regard to the latter vote, he might observe that they had given up distribution of printed photographs, and now they were entirely giving up the increased establishments necessarily involved a large outlay for the officers, keepers, assistants, and clerks of the various collections. The picture gallery which had been erected had formed a model for that in the Exhibition, which he was sure would be very useful. Lord H. Lennox said he thought that the sum of £1,500 for those institutions which were supported by public money should be represented by a responsible minister. He looked upon the South Kensington Museum as a national institution, which well deserved all the support it had received. To it belonged the credit of originating a system of circulating copies of works of art throughout the country, thus rendering the collection purchased by the public not merely a metropolitan but a national collection.—After a few words from Colonel Sykes and Mr. Ayrton.—Mr. O'Connell replied, and said it was his intention to reduce the gross vote by £7,100.—The committee divided. For the reduction of the vote, 48. Against it, 111. The vote was then agreed to.

#### THE MIDDLE LEVEL CATASTROPHE.

**THE** destruction of the sluice and bridge connected with the Middle Level outfall, which cost £30,000 for construction, has been attended with fearful results, including the inundation of a considerable tract of land, and the destruction of property. The entire drainage of a vast portion of the fens between Lynn and Peterborough depends upon this cut, which has been regarded as quite a feat in drainage, and it empties itself into the Ouse about three miles above Lynn. On the 14th inst. the bridge and sluice, which are entirely of masonry (it is supposed through being made on a sandy foundation) and a house or two engulphed. Since that time the most strenuous exertions have been put forth to construct a dam for the purpose of keeping out the tidal waters, but all has failed, though by twenty and thirty barges and a large number of men such (only to be washed away as if they were toys), and about 20,000 sand bags have been thrown into the river. The spring tides have, therefore, rushed up the cut with unbounded velocity and power, throwing down bridges, forcing huge masses of water on the banks, and causing great tracts of land to be inundated. On the afternoon last the tide washed a barge from her mooring, capsized her, drove her against St. Peter's Bridge, and dashed it to shivers. During the first tide on Monday two breaches were made in the bank on the north-west corner of the cut, about a mile apart. On the 15th inst. a third breach was made on the other spread, and when we were there it was not less than fifty yards wide, and the water was rushing through with a sound like "the shout of a mighty catenae." The night here is a fearful grandeur, and the water is so high that the tide is about a mile apart. Houses were submerged eight or ten feet, and a number of stacks were seen floating about. The lice to Wickenham from Lynn was beneath water for nearly a mile, and the trains were unable to run; the telegraph posts were washed away, and a stack of corn on the railway was also washed and lost. It was computed that there was, or would be, in a few hours, not less than 7,000 acres of some of the most productive land in England beneath the water, and it is feared that by Friday (to-day, which will be the highest tide), not less than 100,000 acres of the best land in the county will be under water. This property is frightful to contemplate, and ruin is staring in the face of a great many



in art, he took the command of a smack, and then of a schooner, and went into trade. At length old Neptune—perceiving, perhaps, that one more foolish young rover was ripe for a lesson—cast him lamentably upon Scottish rocks, and left him half-drowned and half-starved to seek a friend where he might. He made his melancholy way to London, and accordingly to the residence of the principal architects, and introduced himself and his misadventure. Gillespie Graham clothed and fed his erratic professional brother joyfully, put a purse in his pocket, and sent him home to London, with a dose of sound Celtic notions, and a prospectus whereby to remember it to good man's silver compasses. All this produced satisfactory results. On his arrival in London the repentant sailor took counsel to art. Six years afterwards one of the most striking designs for the Palace of Westminster (see page 41) was the work of the same man, Pugin, who in Gillespie Graham's manner. In Herbert's portrait, after many years more, Pugin holds in his hands the venerable sailor's compasses.

The date of this not unfortunate shipwreck was 1800; and the ruined commander had reached London in the year 1801. He now took to art, I have said; he took to it, however, still whimsically.

The next was an architectural whim,—the establishment of a factory for Gothic carving. He took large premises at Covent Garden; engaged carvers, and undertook the supply of all the annual work for architects, in all quarters of the country; making, of course, his own designs of detail, as he alone, even at eighteen, could make them. It seems a hard thing to say, but we are scarcely surprised to be told, that within a few months this speculation proved a total failure.

The idea seems ridiculously natural, but one might fairly say that, amongst all these whims, it is a wonder he did not married. Well, he had married. "I had married," he would tell you, "twice before I had shaved once." It was a short courtship; the young man, who was then 40) was the son of a wealthy man, and taken home to old Mr. Pugin's house in Great Russell Street; the parents much disapproved the match, but they did not dare to thwart their wayward son. The poor girl, however, proved an affectionate companion; and when she died, within the year, the young man's heart seemed to be broken. The domestic youth, in his infinite depression, looked back upon his past life. To smile at his hyperbole would be sacrilege. He was not twenty; he looked back over six years; there had been no crowning life in those six years—ever his stern mother said so— "a whole lifetime of gloom." Within after him; he resolved to seek out his heretofore some pleasant place after the pleasantness of his own old fancy. He took her to Christchurch, in Hampshire, because it was a pleasant place. Three weeks after her death he was in the vault, with an unusual ceremony, at eight o'clock at night. Perhaps it was a comfort, perhaps an embarrassment; she had left behind her the sad legacy of a new-born daughter.

When after him he was not yet twenty, and we lose their reckoning. He now resolved to build himself a model house. It would seem that he had cherished this whim for some time, young as he was. He would build in the Medieval manner, of course; not in the manner which Nash and Wyatt followed, but in that which manner ought to be. He fixed upon a piece of ground near Christchurch, where he had nothing but a small house, and he was speedily in readiness except one thing—the money.

We all know how inflexible a thing this is; how the money will always have its own way; how it is of no use to coerce it, or to coax it, or to propose any sort of compromise to it; how the money will force a moment to be spent upon mechanical considerations, vulgar reckonings, callous unimaginative arithmetic. It has been the greatest enemy of poetic and impassioned minds from Tobit Cain till now, and has behaved towards them in a shameful and remorseless way. Young Pugin stopped short, and he stopped at the threshold of his project by this ill-conditioned adversary. His indignation and disgust may be more readily imagined, as the phrase goes, than described. An application was made to the old gentleman in Great Russell Street to become surety for his son. The drawings, no doubt, were ready; the cost counted; the building started out; but old Mr. Pugin was seventy. He declined the investment. And, what is more discreditable still to human nature, there is not a soul in this room who does not consider him to have done quite right.

However, in the same year, 1822, old Mr. Pugin died, in December; and early in the year following died his widow. All that we have to remark about them here is, that they seem to have been buried quietly and without a whim, at Islington, under the control of Mrs. Pugin's sister, who had married an old Mrs. Pugin, in her youth, had been the belle of Islington, although her beauty was of the severe order. An eccentric gentleman once said to her, "Madam, how exceedingly like you are—to the devil!" And also accepted the remark as a compliment.

### III. THE CHAPTER OF MANHOOD.

The year 1833 saw Welly Pugin, at the age of 21, an orphan, a widower, a father; one who had seen ups and downs in the world; one who had had his projects, and had some of them still.

He was a merely, ordinary-looking person; impatient, dogmatic, and whimsical; sailor-like in dress and habits, with a redoming dislike, however, of beer and tobacco, and a still more redeeming brightness of enthusiasm in his eye. In all his ups and downs his memory had never ceased to accumulate the stores of Gothic art, and he was never right in not forgetting them. He now began in earnest the battle of life. It will be seen that his ardour, although all unalisted, and still like no one else's ardour, was now the steepest purpose of manhood, and no longer the caprice of a boy.

He at once married, and his marriage was still somewhat hastily and enthusiastically formed; but the lady was one who proved worthy of his respect, and competent to influence him for good throughout the best part of his life.

He went to reside at Salisbury, and became as nearly as possible a man of business,—a practising architect. At first he passed a good deal of time in Gothic sketching and study, making a tour, indeed, of the English cathedrals for this purpose. He everywhere found restorations, repairs, re-arrangements, in the manner which we have described. He was everywhere successful. He expressed himself vehemently about them. "I rushed to that cathedral; but, horror! dismay! the villain Wyatt had been there! All that is vile, cunning, and rascally is included in the term Wyatt!" Again—"The church is in dreadful repair—all that is to be done is to be done. I will not let it mar; I will annihilate those whose duty it was to have restored it." Again—"The church was improved and beautified about thirty years ago by the late Mr. Wyatt. Yes—this monster of architectural depravity, this pest of cathedral architecture,

has been here—need I say more? The man, I am sorry to say, who executes the repairs of the building was a pupil of the wretch himself, and has imbibed all the vicious propensities of his accused tutor." We can only say that, this was, at the worst, very sound criticism, and as to the very rough language. No one criticises and rough language is not his through life.

Soon after his settlement at Salisbury, a relative died, bequeathing him a considerable legacy. What was he to do now? There is a logical certainty about such people,—they must do something in their mad and crazy way, as to go to a niece what they are to do next. Pugin's aunt left him money, and the question is, What was he to do with it? Money?—why, money was the identical thing which stopped him short in the matter of his house. He was told by his friends, with it, of course, to build a fine and stately pile in the neighbourhood of Salisbury, bought it, and forthwith erected his long contemplated Gothic dwelling. It was what may be called a plain five-story square brick house, of three stories, with a light-pitched and crenellated roof; a square tower, or rather turret,—one consisting of small porch below, and a belfry at the summit.

The elevations were altogether unsymmetrical, and, I think, more in the simple, ungarished, and unaffected spirit of Medieval domestic work than any other modern design of the kind I know. The high road in the south side of the house some feet above the ground within, and the lowermost story being therefore formed as a basement of kitchen offices, the entrance door was reached on the first-floor level by the not inappropriate but needless means of a small drawing-room. The rooms are generally described as having been small and comfortable; but there was nothing in it to mark as yet the peculiar mission of the man, except, perhaps, the domestic chapel, and the loggia by which the occupants of the book-chamber story might listen to the service at early morning. The plan was a compromise between the more modern in its principles than ancient. The decoration, fittings, and furniture, were of course in Medieval style, the design of the owner's hand.

Meanwhile, he had brought out several books illustrative of Gothic art. During the years 1835 and 1836, he published no less than four volumes of designs, in a many various departments of his favourite style, namely: first, his "Gothic Furniture," and succeeding this, his "Iron Work," "Gold and Silver Work," and "Recent Timber Work." Although the knowledge which we call Medieval principles has vastly progressed since that time, no one who examines those early works can wonder that they attracted great attention, because the accepted authorities on their subjects, and established the reputation of their author as the leader of the new fashion in the design of monumental art.

(To be concluded in our next Number.)

### PROVINCIAL NEWS.

**THE SPARKS OF THE IRON AND IMPROVEMENT COMPANY.**—The proposed iron works in Scarborough are likely to be speedily commenced, as they have received the support of a public meeting in that town. Mr. T. Page, C. E., is the engineer employed, and the consulting manager is Mr. W. North.

**THE THEATRE AT BATH.**—The recent destruction of this elegant building by fire was a matter of regret to all the inhabitants, and sympathy has been expressed generally for the great loss personally sustained by Mr. Clute. A thorough-going agitation has produced a meeting of the most influential citizens, and it was resolved at that meeting to re-build the theatre. The plan has been fixed, and the limited liability company, with a capital of £12,000. We understand the design of the new structure will somewhat alter and increase the accommodation, but the general arrangements of the stage the architect (Mr. C. E. Davis) leaves to be restored almost according to the design from which the former theatre was built.

**PAINTED WINDOWS.**—We understand that the Rev. A. and F. Sutton have just presented their fifteenth and sixteenth painted windows to Lincoln Cathedral, and also the east window to St. Botolph's Church in that city.—The whole of the memorial window to Bishop Sharpe of Doncaster is now on view in the International Exhibition. The position is not altogether a favourable one, still it seems to us that the window, as a whole, is not quite up to the mark, either as to design or execution. Each compartment, when viewed separately, does not leave this general impression. It may be, however, that when the window is fixed in its intended position, this thinness of aspect may cease to present itself.

**THE GAS WORKS AT DONCASTER.**—Mr. Fairbank, of Scarborough, has completed the large gasholder at the works here. The cost is about £5,000. The holder is of wrought-iron plates, and in its construction 150 tons of iron have been used, and 160 tons have been worked up in the columns supporting the balances, the pedestals, &c. The diameter of the holder is 115 ft., its height 29 ft. 6 in.; so that at a rough calculation it is capable of containing 225,000 feet of gas. The excavation for the holder was to the extent of nearly 7,000 cubic yards.

**JOHN WATSON WORKS.**—It has been announced by the Town Council of Dover, to lay out £5,500 on the improvement of the water-works. The cost of the present works was nearly £2,500.

**PUBLIC ROOMS AT CAMBRIDGE.**—These fine buildings, from designs by Messrs. Peck and Stevens of Maidstone, have just been opened. They consist of an assembly-room, five libraries, a billiard-room, a reading-room, an Art, Town Clerk's office, &c. The assembly-room is of an Italian design. The side walls are broken up by means of pilasters and surface panels, surmounted by cornices and balustrades, upon which line the windows are placed, the pilasters being covered up, and finished with cornices and ornamental foliage. From hence the walls unite with the ceiling by means of a series of wall pilasters from pilasters to the ceiling, and the ceiling, which are filled with ornamental foliage, perforated for ventilation. The end of the room is circular, on the same plan and with the same description of decoration as that of the side-walls. Over the entrance to the room is a small gallery. The other parts of the structure are in keeping with the main feature.







## THE BRITISH MUSEUM.

THE clique interested in the aggrandisement of South Kensington, have received a slight check in the refusal of the House of Commons to pass a Bill for the removal of a portion of the British Museum collections to that favoured spot, which, surrounded by the homes of the wealthy and the great, has come to be looked upon by the "upper ten thousand" as the centre of London, and the most easy of access. To Belgrave and Brompton it is, no doubt, very central; but what is it with regard to the inhabitants of three sides and the true centre of London?—to the inhabitants of something like nine-tenths of the metropolis, and to the visitors to London who are spread over those nine-tenths? Is it really, fairly, and honestly anything but an outlying district, a suburb? Mr. Bouverie has said, in evidence, "the public leave the London streets, cross the park, and soon arrive at the site." Pleasant picture! But the idea is not to be conveyed, applied to those only who live near the park. Let Mr. Bouverie some morning betake himself to—say Islington, where a tolerably large number of British people, for whom, as we understand it, the British Museum is maintained, reside. Thence let him start for the new centre of London so "easy of access." If he takes a cab he will find it a wearisome journey, and to many it would be a costly one. If shut up in a close-smelling omnibus, he will arrive at the favoured site in a frame of mind scarcely favourable to a day's enjoyment or study, and the points of view of thousands of people who will visit the Museum would have to do so, or stay away, he would perhaps arrive at the conclusion that it was a rather wearisome journey through London streets, and a very short walk in comparison, across the park.

It is not unnecessary, once more, to raise a strong voice against the proposal, to take the British Museum to South Kensington, because the attempt has just failed. The subject will be again brought forward before long, and the defeat now experienced, will serve to teach those in command of the movement, the weak points of their late attack, which they will, no doubt, take care to strengthen when the question is revived. We hope that then some other members will be found to support Mr. Seymour, who, it appears, was the only gentleman who on Monday objected to the proposal, on the ground that it would render the art treasures of the Museum more accessible to the comparatively few inhabitants of the West End, and less accessible to the poorer inhabitants of other parts of the Metropolis.

There is no doubt that the present buildings in Bloomsbury are overcrowded, and that additional space is absolutely necessary, not only for the better display of the collections now exhibited, but also for the arrangement of a large collection which is stored away, and cannot be seen at all. But much of this inconvenience might be removed, as we have shown on a former occasion, by a judicious selection, and removal of many objects which really are of no value whatever to the larger proportion of visitors. These might still be accessible to students, in rooms where they could be arranged with much greater economy of space than is possible in rooms frequented by the general public. Besides this, however, additional buildings are required, and the want, daily becoming of more serious importance, has furnished the advocates for removal with an argument for the transfer to South Kensington. But to impart force to the argument it was thought necessary to show, that space could not be obtained contiguous to the Museum, and that the cost of erecting a new Museum at Kensington, including land, would be less than in Bloomsbury. The first consideration was disposed of by saying, that a larger space is required than can be conveniently obtained in the neighbourhood of the Museum; and in favour of the erection of the new building was asserted by the Chancellor of the Exchequer, that there would be a saving of some £300,000 in erecting a new Museum on the Commissioners' estate, instead of enlarging the present Museum. The trustees, who favour removal, have investigated the financial aspect of the question, and arrived at the conclusion that the cheapest ground in the neighbourhood of the Museum would amount to £50,000 an acre, and as five acres are wanted, the cost of the ground, at the rate estimated, would be £250,000. The cost of building on the ground, when it is secured is estimated at £100,000 per acre, or £500,000 for covering five acres of land, making a total of £750,000.

The Commissioners of the Exhibition of 1851 happen to possess some land at South Kensington, for which they paid about £5,000 per acre, and as they consider the British Museum to be "an important national institution," they desire to be very generous. To erect a museum on their estate, they offer the land "at a lower price than the market value," or £10,000 per acre, just double the sum they paid for it. In the same report the Commissioners said, that they were anxious "to afford every facility in their power, and fed that they should not deal with the question as a purely commercial transaction." We find it is stated that the site thus available for a new British Museum would cost £50,000 only. The Chancellor of the Exchequer has examined the plans, and is able to give a "conjunctural

estimate" of the probable cost of carrying them out; he also finds that the cost of building at South Kensington will be from 20 to 25 per cent. less than the cost of building in Bloomsbury; and therefore sets down the total cost of a new building at South Kensington at £300,000; altogether it is estimated that the cost at South Kensington would be from £270,000 to £280,000, and that the cost of the same operations at Bloomsbury would be from £300,000 to £370,000.

There is something eminently grotesque in the statement, that to erect a Museum at South Kensington would cost, for more building, from 20 to 25 per cent. less than at Bloomsbury. But so says our Chancellor of the Exchequer, and he gives as reasons, that the style of the buildings in Bloomsbury is fixed by the present structure; at South Kensington "they would be able to employ and distribute the ground without reference to any previous considerations; and it would further be practicable to employ a lighter style of building, with a much greater amount of window space and of glass, which would be both cheaper and more convenient." It is scarcely necessary to point out the fallacy of this argument, unless it be intended to erect fresh "bottlers," or "dish-covers," for the reception of the contents of the British Museum. If such is the case, and it is by no means unlikely, we acknowledge it at once, that such a structure would not harmonise with the present building in Great Russell Street, though it might with those at South Kensington. But we would at the same time assert most emphatically, that it would not only cost no more to erect buildings in connection with the present, in strict harmony with them, and even with a "greater amount of window space and glass," but that there would be an actual and large saving, of course assuming the proposed building at South Kensington to have any pretensions to architectural character. We need express no opinion as to the design of our present Museum, as it would not be necessary to reproduce the facade on each side. Architecture has advanced during the past twenty years, and the erection of three facades to harmonise with, though not to imitate, the present, would offer no very difficult problem to our architects.

The present is not the first time we have heard of the plans for this proposed new building. It is assumed that a building is to be erected before the plans are prepared, and we have the Chancellor of the Exchequer telling us that he has seen them, and we also learn that they are sufficiently detailed for estimates—"conjunctural estimates"—to be framed. Under whose direction have these plans been prepared, and who takes such an interest in the matter as to ask for plans, before it is determined to erect the building? Does not the existence of such plans, show a strong determination somewhere, coupled with the assurance of influence, to grasp such of our art collections as may be found to want sufficient protection in the public view?

Architects, too, are not uninterested in the aspect the question has assumed. Who prepared the plans? Is the designer of the Exhibition building to become the architect of all our national works? Have the Brompton boilers served to prepare the public for a series of such erections, in which we are to store our choicest works of art? It is impossible not to see, in the proposed removal of the Natural History Department, another grasp at the art and science collections of the nation.

## THE INSTITUTE ON PROFESSIONAL PRACTICE AND CHARGES OF ARCHITECTS.

NOT a few questions of great moment are everywhere settled by a common consent. Where there is no other rule laid down or law established, received custom obtains the force of law, especially in cases where matters concerned are obscure or difficult. It becomes therefore of great importance to know exactly the custom settled by common consent, where this vague and often lax rule is appealed to, and especially in questions of nicety and delicacy.

The remuneration of professional men is precisely a case in point. It is not difficult for any one with good sense, and a few facts to go upon, to decide pretty nearly what is a fair price for a thousand bricks, a suit of clothes, or a stack of hay; but where skill, experience, genius, and technical knowledge have to be paid for, the matter is not so simple;—while, from the character and standing of the persons concerned, it is desirable that the risk of disputes and dissatisfaction should be avoided.

On this account, the simple rule of an architect's remuneration by a commission of 5 per cent. upon the entire which he superintends, having once become general, has been accepted and adhered to as a basis, although it affords most unequal, and sometimes inadequate remuneration. There are, however, numerous cases where this rule is clearly inapplicable, and there is much room for dispute as to what was exactly included in the duties thus paid for. An authoritative statement of the course pursued by the most experienced in their practice, has been accordingly a desideratum, and the Royal Institute

of British Architects has never taken a better or more useful work in hand than the preparation of such a document.

It has been known generally throughout the profession, that a standing Committee of the Institute has been for some time exerting itself to obtain the best information on professional practice, and to place it before the members in the best possible form. After the Committee had laboriously pursued work, then a special meeting of the members was held, to revise and finally sanction it. The result is the Report on Professional Practice and Architects' Charges, which will be found in another column. We believe we are correct in saying that this report, though embodying the most important points on all matters which it was thought necessary or desirable to print and circulate, does not exhaust the subjects submitted to the Committee; and that there are papers lying at the Institute Rooms to which the members of that body can have access, and from which they may derive valuable information.

The usual commission being first named in this Report, the exceptions to it are subsequently given, the amount of work required to be done for it is accurately defined; and lastly the remuneration for works of a nature not strictly architectural, and which yet fall into an architect's hands, is determined.

The commission on works is a subject which has hitherto received careful examination in this journal.\* We have shown that the method hitherto adopted, while very fair to the employers, was very unequal, and consequently unfair to the architect, and it is in cases where this inequality presses heaviest that the exceptions are made. The highest class of design is most properly recognised as exempt from the rule of remuneration by commission; also, very small works, which are known to every architect to consume labour and time out of all proportion to their cost, are similarly exempted. In the one case the remuneration is settled by private agreement, and as the number of persons capable of doing such work is small, nothing else could well be done. In the other case, one which applies to all architects, the legitimate scale of charges is very properly laid down.

This scale has not been universally in use, though it has been long followed by certain architects, and officially recognised, and it will be felt as a relief to many, who, adhering to the 5 per cent. scale, and having many works of small magnitude, have felt the difficulty of their practice, and the inadequacy of their remuneration. It is not at all too high, and will, we hope, be generally adopted. The case of an employer retaining part of his materials or labour, or of a large mass of old materials being taken as part payment by the builder, is considered and provided against. These conditions usually increase the trouble of the architect, and always diminish the cash paid. It is therefore only just that the value at builders' prices of the labour performed, or the materials supplied or found on the site, should be taken into account on calculating the commission. In the case of replacing, or adding to, or altering old buildings, it is always well, where possible, to make the contractor send in two estimates, one stating the cost of the work if the old materials become his property, and the other stating the cost if executed entirely of new materials, the old being sold to independent parties. The latter estimate would, of course, be the proper basis for commission.

Besides travelling expenses, the employer is chargeable for time consumed, where the distance of a work from the architect's place of business is unreasonably great; and for special services such as sometimes grow out of a building, but are really no part of the duties incident to executing works or preparing plans for them. These special services will be found enumerated in the report, and include negotiations as to site, party walls, lights, a detailed estimate beforehand, alterations of a material nature after the plans are complete, and measuring up and valuing.

It should be noted that these charges are many of them *permissive* and not obligatory. It is unquestionably unfair for an architect to carry out architectural works of an ordinary character for less than the usual remuneration, or for no remuneration at all; and this we believe is universally admitted by all respectable practising architects, and the reasons for it are very easy to understand. It may not, however, be equally clear why there may be any variation allowable in the rates charged above 5 per cent. The truth is, however, that these rates are very much questions of professional standing, and that although there is a standard below which it is not right for individuals to go, there is no necessary obstruction in the way of those who, believing or knowing themselves to be capable of doing better things than the majority of architects, consider it fair that they should be better paid.

Extra payment for time consumed in travelling deserves a moment's consideration. No architect is bound to demand it, and a young man, or one of small standing, if employed on distant work, would in many cases be unwise, and in some unjust, to think of demanding it. But if

people far off in the country require the services of the best talent that the metropolis can afford, it is but reasonable that they should pay something as a remuneration for the time actually lost by a professional man who, had he not been journeying, might have devoted the hours spent in the railway to profitable pursuits at home.

Similarly, the charges for designing monuments, stained glass, furniture, and the like, secure in many cases an excellence that perhaps only one hand in the United Kingdom can bestow, and it will be conceded by every one that such services deserve every encouragement and ample remuneration.

There are other portions of the report before us which deserve consideration, namely, those charges which are reckoned below 5 per cent.; the statement of the duties of an architect, the ownership of drawings, and miscellaneous services. It is interesting to compare the report now before us with two scales of professional charges issued by architectural societies, that of the Scotch architects and that of the Northern Architectural Society. Both of these scales have appeared in our columns, and the fact of their having been prepared and published shows how desirable it was that the document now under consideration should be prepared and issued under the best possible sanction.

## INTERNATIONAL EXHIBITION.

### THE PICTURE GALLERIES.

THE first question asked by persons who have not seen the pictures at the International Exhibition is, "How does the English school stand in comparison with the schools of the Continent?" The answer on the general view of the whole collection will be most satisfactory to our national self-esteem. Even after the eye has been accustomed to the foreign pictures for several days, those by native painters suffer little by the comparison with regard to art generally. The process by which this comparison is established, being the careful examination of upwards of four thousand works of art, with the necessary strain of memory, is not a task very easily accomplished, and becomes exceedingly difficult in consequence of the pictures from the various countries of the Continent not being placed in the regular order of the catalogue, those of each country not being arranged together; and in many instances one picture by a certain artist will be found in the principal room, while the rest of his works are scattered through the side gallery. In this absence of system, a complete conception of the whole is rendered impossible, and must be accepted as our excuse for irregularities which may arise in the course of the criticisms we intend to make, and the comparisons it will be our endeavour to establish. Such a collection of pictures as we now have in the galleries of the Exhibition, was the deficiency of the first Great Exhibition of 1851. That, however, without pictures, was a glorious success. The present Exhibition without pictures would have been a total failure. The first was the spontaneous effort of an enterprising nation, sustained to completion by hearty good-will and enthusiastic cooperation; the present is the deliberate calculation of a party, and carried on amid divided interests and antagonistic councils.

One half of the space devoted to pictures, drawings, and engravings is occupied by works of the British School, the other half contains all the paintings, drawings, cartoons, and engravings sent for exhibition from the Continent. The collection of the English portion of the building illustrates our art from Reynolds, including examples of all the painters of that period down to those of the present day, whose works may be now also seen in the annual exhibition. The selections by the Continental authorities seem to have had no retrospective purpose, and are confined chiefly to living celebrities. Those who are directly well conversant with art, both in England and on the Continent, will no doubt be impressed with the idea that a general arrangement has been assented to and acted upon in the choice of pictures to be exhibited, both from abroad and on this side of the Channel; we allude to the evident absence of all eccentric productions as nearly as possible, and the eye passes along the whole range of the two galleries, both foreign and native, without meeting with a painting in a style which creates the slightest difficulty to the art-visitor. There does not blaze out in mystic splendour on the walls of the British Gallery, while on the French side Ingres and Delacroix are represented by a single picture each, and that the least peculiar of their known works. If this has been intentional, and in the interest of art, great praise is due, because sufficient mischief has been done to the public belief and judgment in art; but much by abuse, and "occasion" pictures, as by writings which have directed so much general attention to them.

Another remarkable feature of the Exhibition is that France has not put forth her strength. She certainly does not take the important position she is entitled to, and her powers in the higher department of art are rather indicated than represented. Hence an opinion has become general that French painters are scarcely equal to our own native artists. This is an error. On the present occasion we have seen to have thought it more fair to meet us as nearly as possible on our own ground; but it must not be forgotten that a branch of art has been withheld—the profane and sacred historical—which would have not only covered our walls with fine painting, but our patrons of art with shame. In the British division of the gallery, we have historical and religious subjects by Cross, Hilton, and Haydon. The first has recently died warning the necessity of his the need would have probably paid the same penalty of a laudable ambition, had he

not been made Keeper at the Royal Academy; and the last, after suffering poverty for some years, besides being imprisoned for debt, and living on charity, took his leave of the patron of historical art by self-destruction. How it happens that our painters employed to decorate the palace at Westminster, have not come forward to vindicate the honour of the country, as regards historical painting, we think requires explanation. The Belgian contributors have not been so merciful to us as the French, for the paintings by Gallait are the finest works in the whole collection.

It must not, however, be assumed that, because the pictures sent from Paris do not stand out so bright, that there are not among them many examples of the elegant and imaginative branches of art to which we cannot produce satisfactory parallels; nor that, because the walls are not covered with high and sacred art, no attempt has been made to represent it. On the contrary, each class of subject seems to present itself in calm defiance of and patient confidence in the result of the comparison that may be made. The champion of the grand style will be found in a large picture by Auguste Bartholomew, bearing the illustrious title of Englishmen to "A Pilory." The word in French, by a free interpretation, means a display of great men. As an example of the large style of art, we have no painting that can be compared with it. Beneath it, on the right on entering the French Gallery, hangs "The Annunciation," by Amaury Duval, which for elegance of drawing, elevated delicacy of tint, and graceful composition, with a delightful sentiment of refined religion, the English School possesses no painter who could approach it. For purity of tone and delicate gradations of tints, we cannot match the picture entitled "Francesco d'Assisi." As regards effect, finish, and the charmingly imaginative, where have any work equal to "Illusions Destroyed," by Charles Gleyre? Nowhere. The same answer must be given to a similar question respecting the solemn dignity of "Marie Antoinette passing from the Tribunal after Condemnation," by Paul Delvaux; and also as regards those small but beautiful, expressive pictures in a very low tone of colour, which hang close beneath it. Of the same kind, and equally poetic in treatment, is "The Procession to Calvary," by Armand Leleux. On the opposite side of the room is a landscape with which we have nothing to compare for classical treatment and lofty repose. It is by Charles F. Daubigny, entitled "The Banks of the Oise," and of the perfectly ideal and elegant kind. "The Sister is Not Here," by Hamon, we have no counterpart. We are now giving merely a glance round the galleries, but shall go more fully into the merits of the pictures in future notices.

The German artists have sent several pictures which are entirely beyond the powers and above the aim of English painters. "The Holy Family," by Carl Müller, a picture painted in a most simple manner, is one of them. The severity of the drawing is not quite so distinct as in the other compositions by Raphael, at the Earl of Ellesmere's; but every part is extremely graceful and beautiful. A large gallery picture of "Nero after the burning of Rome," by Carl Piloty, is painted in a grand style, and the whole is finely conceived. "The Three Marys on the Morning of the Resurrection," by Carl Feeschel, is excellent in tone as regards the subjects, and although not so admirable, it is possible to find no other picture in which the artist attempts the same subject. "The Death of Nicoté, King of the Obolites," by Theodor Schloepke, is finer as a whole, figures and horses taken together, than any artist we have could paint. "The Raising of Jairus' Daughter," by Gustav Heichler, if not absolutely grand, is composed with expressive simplicity, and is scientifically coloured.

Compare the two pictures by J. Jansz, a Dutch artist—"The Shipwrecked" and "The Cradle"—the former painted in that sombre and monotonous style so well suited to the subject, and the latter, a most brilliant effect of sunlight on the figures, with the sea melting into aerial mist and space. Where, let us ask, is an English artist who ever thinks of painting from palettes so differently regulated, according to the sentiment of the subject?

The Swedish School sends us the works of two female painters, which we do not think our Society of Female Artists could equal. There is a refined delicacy and skilful arrangement in "Meditation"—a lady reading in an elegant boudoir—by Jeannette Müller; and "A Mother with her Child," besides two other clever pictures, by Analia Lindgren. Another example of the change foreign artists made in their style of colouring, in accordance with their subjects, may be seen in the pictures by Frederick Hückert; and the Norwegian painter, Tideman, is not easily excelled in his humble and religious ceremonies.

Of the Danish School, we have a classical scene from the "Andria" of Terence, by Ahlbggaard. The collection from Russia is very interesting. In it we find, among the higher order of art, a rather pre-Raphaelite "Virgin and Infant Saviour," by Theodore Brunt, but graceful and well painted; and fine pictures of gallery size, by Peter and Mary Petrovitch (could we tangle), very classically and elegantly treated, and the event as expressively illustrated. Taking this work, by Alexander Ivanoff, as a whole, we do not know an English painter who could equal it. In domestic paths, with admirable execution of accessories, "The Widow," by Paul Fedotov, we have seldom seen excelled, and we should be happy to see the feeling and propriety of treatment in "The Parting," that receiving the Holy Communion," by Alexis Venniamin, more frequently displayed by English painters.

The Belgian School, as we have said, is the great point of interest, in consequence of its exhibiting the two wonderfully dramatic pictures by Gallait—"The Last Moments of Count Egmont" and "The Last Honours paid to Count Egmont and Horn." There are, besides, several other pictures by the same artist, which make that side of the Belgian room

remarkably effective and attractive. This room is further enriched with pictures by Leya, relative to the history of the Netherlands and the Reformation; numerous productions by Malou, the Wilkie of Belgium, of a very amusing description; two fine pictures by Passé, a very appropriate subject, by Slingueux, of "A Martyr in the days of Diocletian" about to be torn to pieces by wild beasts; and some large cattle pictures, by Verboeckhoven and L. Robbie.

The Spanish painter, Antonio Gisbert, sends a picture full of fine sentiment, entitled, "The Execution of Padilla, Brava, and Maldonado;" and a small but highly scientific one, as regards the gradations of tone, representing "The Death of Don Carlos, son of Philip II., and Queen Joanna embracing the Coffin which contained the Body of her Husband," by Gabriel Maureta.

Italy exhibits no painting of importance, except "The Taking of Jerusalem," in which there is much elegant drawing and treatment; but there are some fine large drawings in pen and ink from the "Inferno," "Purgatorio," and "Paradiso," of Dante, given in original conception, and most elaborately, as well as very gracefully composed.

We have now briefly directed attention to the chief points of the foreign schools, in all of which we find either superiority in choice of subject, imaginative arrangement in accordance with the sentiment of the scene, or refinement in the general treatment, and all of which we should be happy to see the English School make some attempt to emulate. But it must not be supposed, because, according to the rules of politeness, we give priority of consideration to the stranger, that in our next number we shall not be able to show in what the English School excels those of the Continent, if not in those of the present day, at least in the productions of the great English masters—the fathers of British Art.

#### ROYAL ACADEMY.—ARCHITECTURAL DRAWINGS.

THE reflection recurs to us, as we again look upon the architectural drawings at the Royal Academy, that a union of the works here exhibited with those displayed in Conduit Street, would quite constitute a creditable exhibition of architectural art, and convey a fair, although by no means a full, idea of what has recently been executed or projected by English architects. As architects have been the estimable patrons of the Architectural Exhibition, some twelve years since, it is with difficulty that we can compass their aggregate importance. We cannot but remember also that a considerable number of drawings reserved for this more aristocratic gallery are annually returned to teach a lesson to their disappointed owners, instead of being hung for the instruction of their professional brethren. It is then too late to send them to the Architectural Exhibition. Between the two Galleries, many works "go the wall" in the offices of their respective owners. We must be contented, in the words which adorn the title page of this year's Catalogue, "to make up our idea of perfection from the excellences that are dispersed" "over the several Galleries—in Conduit Street, South Kensington and Trafalgar Square, and banish all expectation of finding it exclusively in either locality. The International has a goodly show, but they are chiefly gathered from former exhibitions. The superior attractions of the Royal Academy have likewise influenced our architects, and renders it easy to account for the poverty so conspicuous at Conduit Street.

The post of honour is deservedly occupied by a large and brilliant drawing of Mr. Page's Design for Blackfriars Bridge. It consists of three iron segments arches with piersed sandpurs, supported by red granite piers. Works of sculpture surround the piers. The alignments are pierced by single rusticated arches, which hardly correspond with the general character of the bridge. The lines of the bridge are grand in the extreme, and the ornament surrounding the coloured shields in the sandpurs most judiciously introduced. If erected as here shown, it will far surpass anything which has hitherto spanned the river. What, however, is meant for its crowning decoration, its great defect, its gross imperfection, is a permanent impediment to mar its entire appearance. We allude to the colossal groups of sculpture upon the piers. They are represented as facing the river. From the bridge, therefore, their back views must be simply uninteresting. Moreover, towering above the horizontal line of the bridge, they break it at regular intervals in the most unpleasant fashion and unnecessarily disfigure this true masterpiece of design. This is the arrangement to be regretted, because it could so easily have been rectified. We admit the appropriateness of sculptured groups, but why, we ask, were they put upon the bridge to stand bulky against the sky? They destroy the fine stretch of line which links shore to shore, and so placed, are further removed from the river passengers, without being, even in themselves, of interest to the people on the bridge. They could just as well be fixed in front of the piers, the pale red colour of which would form a charming background to them; they would then enrich what is now too plain, be nearer the eye of all possible spectators and leave in calm repose the splendid outline of the bridge which they now so rudely intrude themselves upon.

Leaving the projected improvement in the appearance of the river, which is likely soon to be realised, we come, in 1859, 1860, to two "Studies relative to the Embankment of the River Thames," by Mr. James Stirling, of a secondary character. The author's notion is to avoid all interference with private property. He views the embankments as Government estates, upon which stately buildings, after the style of Somerset House, might, in course of years, be erected; and in forms in the rear of the embankments open docks, so as to communicate with the different wharves. After Mr. Cowper's explanation of the Government's intention, there is not much

chance of Mr. Newton's design being realised. Mr. Charles Henman (834) treats us to a somewhat similar idea; but, instead of palatial buildings, he shows fire-proof warehouses on the banks, relieved by glazed promenades, and the author's "system of street architecture, in accordance with the requirements of the age," which altogether strikes us as being even uglier than the present aspect of the shores.

A conspicuous blemish is pointed out by Captain Fowke, of the "Industrial Museum of Scotland," 892. To say that it is better than the International Exhibition is not, perhaps, saying much. The style is that of an Italian villa magnified. In fact, there is a villa hanging near it, by Mr. Massey, 885, which, although in size not one-quarter of it, is in design infinitely greater. The characteristic of the Museum is that of all Captain Fowke's work—swollen littleness. We see that, although designed by Captain Fowke, it is erected under the superintendence of a local architect. We think it a pity that they did not exchange their relative duties. Edinburgh might then have been able to boast of a finer building, and London, at the same time, have escaped the infliction of an uglier one.

Mr. Godfrey Sykes shows the first sketch for filling the blank arcades in the Cromwell Road with mosaics. Groups of figures, illustrative of arts and manufactures, shaded sepia, are introduced within grey and red bands. In the heads of the arches the raw material connected with each subject is depicted. The designs are exquisitely drawn and coloured, but they would as fitly be attached to a brick-kiln as to that grandly gloomy front. There is only one appropriate way to destroy its blankness, and it is, moreover, one peculiarly suited to the business instincts of the Commissioners—that is, to let the series of arcades for advertisements. People would then stop to look at the commercial advertisements, and the scheme would gladden the hearts of Commissioners who have shown such aptitude for creating riches, and selling them.

Mr. Newton has a "Study relative to the Composition of the Vertical Lines of an Obelisk, and the Horizontal Lines of a Bridge." Since it was prepared, the obelisk fever has subsided; but we may remark that in this bird's-eye view no horizontal line is seen at all, and that the lines of the obelisk compose chiefly with the curved lines of the trees behind them. The design, however, is not the less good because of Mr. Newton's incomprehensible description of it.

A "Proposed Memorial to the late Prince Consort for Newport Church, Isle of Wight" (853); by Mr. F. Mow, is an artistic mural monument, conceived in a true Gothic spirit, but free from the fetters which too frequently cramp the details. It is, moreover, highly creditable to a provincial town that they have preferred a design of this kind to the stereotyped editions of dull marble statues by second-rate sculptors. The memorial is placed between two windows, which are bordered with encaustic tiles bearing the royal cipher. The windows are appropriately filled with stained glass. In the spandrels of the windows, enclosed by ornamented quadrifid arches, medallions of angels holding scrolls are incised. The incisions are filled in with black plaster, after the fashion of the Italian intagliata recently introduced into several churches by Mr. Butterfield and Mr. Street. A canopy is placed between the windows. It is supported by marble shafts of different colours resting on corbels, and is tastefully, if not expensively, enriched. A carved head of the Prince, in relief, is seen in the arch; inscription occupies the space between the shafts. A band, bearing a Biblical motto, stretches from side to side under the whole composition. It is stopped at the ends by carved angels, which, we think, the architect might in execution very wisely dispense with, or else incise them, as he has done those bearing the upper mottoes.

A design for the same subject by Mr. Bellhouse (842) is hung too high to be properly examined. It looks more like a factory chimney in the rear of an Italian town-hall than a Christian monument. Of other memorials, we have one of 1851 by Mr. J. Lewin (841), which resembles Scott's monument at Edinburgh; and another of the same subject by Mr. H. S. Legg, which we have seen exhibited before. It is in three stages, with lions and figures at the angles, and statues of the Queen and Prince Consort on the summit. Mr. F. P. Cockerell sends a masterly restoration of the Street of Tomba, Pompeii. It represents a natural procession issuing from the gates, and the monument of Sulpicio in the distance. A figure of Neptune exhibits a memorial to William Tyndale (850), a well-proportioned, simple, and imposing grey pile, with bands of brown stone occasionally introduced into it; Mr. M. Digby Wyatt, the granite monument placed over the grave of the late President of the Institution of Civil Engineers, in Kensal Green Cemetery; and Messrs. Tallis and Peron the fine tower which its general design there is unfortunately none in the details. There is a want of breadth in the whole composition, and the lower guides over the arches of the tower are a palpable mistake.

Mr. H. E. Kendall, jun., displays upon an ostentatious scale an extensively got-up design for a mansion "in the old English style now erecting." It contains a profusion of barge boards, gables, chimneys, and dormers, grouped together with no skill, but there is an evident want of good taste in the exaggerated forms and dimensions of the detail. Moreover, if we mistake not, the whole thing, as regards its half-timbered "old English" style, is a huge sham. We cannot conceive a gentleman insane enough to dwell within wood and lath and plaster walls, when possessing

the means so elaborately to ornament them. It is *erected with, not in* the old English style, and is wanting in the true principles which guided the middle-age builders. As a specimen of imitation it is as clever as a piece of wall-paper lured and drawn to resemble stone might be made, but it sinks beneath the level of art and of "the old English style" altogether.

554, Hawkleybury, Hants, is a far more genuine design. The high pitched roofed and gables, turned up at the eaves, and the chimneys are here introduced with a thorough appreciation of their value, and the true artist is seen in the way in which the red color of the brick chimneys is, by means of diapers and lands of roof tiles, made to harmonise with the cool grey stone of the walls.

The "Design for an Exchange for a large Commercial City" (845), by Mr. W. Mason, recorded, we believe, the gold medal of the Royal Academy. The generalised drawings are hung in Conduit Street. Mr. Mason is highly creditable as the work of a young architect, and the upper stage of the tower is a feature of singular beauty. Mr. Phénix Squires contributes several talented studies of old French buildings; Mr. Cole, a fine view of Aubrey Cathedral; and Mr. Johnson, some drawings of Westminster Abbey. The "Design for the Palais de Justice at Brussels" (876), by Mr. Kerr, is in the serene Roman style, with a colossal dome rising in the centre of it. The late Sir Charles Barry is represented by his designs for the Halifax Town Hall, now in course of erection, with modifications by his son. The proportions of the façades indicate the ripe scholarship of its distinguished author, but the upper portion of the tower—shaped like an obelisk—is no ornament to it, and of very little use, since it serves only to connect the stairs which lead to a balcony near the summit. The "Shooting Box," by Mr. M. J. Barry (880), is a square building, the four sides of rectangular apertures and a high roof. Mr. Gray's "Design for Houses in Gore Road, South Kensington" (894), is an extension of the well-known style which he has adopted in the neighbourhood of Grosvenor Garden. The "Dwelling House at Wantage, Berks," by Mr. Brooks (832), is a red brick building, with bricks laid herring-bone fashion in the arch heads over the windows. This style of work is all very well, but it is a contrast to other detail, but a repetition of it throughout the building shows poverty rather than fertility of invention. With a profusion of cupings and jagged pinnacles, Mr. Smith has composed his "Design for a Memorial Church at Hereford" (835). Mr. Manning's "St. Olave's, Ramsey" (838), is the drawing from which the photograph was taken which hangs at the Architectural Exhibition. Mr. R. W. Ellis, in a couple of designs, is more to be admired than to be envied, as already said (834, 837). Equally clever, and in a similar style, is the selected "Design for Rugby Cemetery" by Mr. Bidlake (846), but the same architect is hardly so successful in the "Design for the New Markets at Chester." "The Church of St. Charles Borromeo" of Messrs. Willson and Nicholl has afforded them an opportunity of producing two spirited etchings, but that is all we can say for it, if we do not add, that it is also entirely of the design. Mr. Adair's "New Church, at Sutton, Kent" (847), based upon a good model. It appears, in fact, more like the restoration of an old church than a design for a new one. The weak point is the bell turret, which no one would possibly take to be other than a modern work. Mr. Sang's first prize design for covering the Merchants' Area of the Crystal Palace deserves examination, on account of the excellent and artistic manner in which the desired object is achieved.

Mr. Goldie's originality has full scope in his St. Wilfred's, R. C. Church, York (855), but, as is too frequently the case, it betrays him into exaggeration. This is plainly seen in the deep slay over the shallow plinth of the tower, and in the slender columns, placed one over the other, without even a string intervening for support. It is original, certainly; but that is all we can say for it, if we do not add, that it is also entirely ugly. From the fact of Mr. J. P. Jones exhibiting a second time his design for a cemetery (856), he evidently has a higher opinion of it than anyone else is likely to entertain. A very clever Italian villa design (858), by Mr. J. Giles, has likewise been already noticed by us, in the Conduit Street Gallery. It is to be regretted that the design for the Hull Town Hall, by Messrs. Massey and Evers (860), was not sent to the Architectural Exhibition, where many of the competition designs are hung. It is Italian, with tower in the centre, and steep square roof over the wings. The three-quarter columns tacked on the front, between the windows, are worse than unnecessary. With that exception, the design is a very good one. Mr. George Godwin's "Baillif's House and Stabling" is, we fancy, an old design.

878 is a suggestion, by Mr. Naden, for relieving the present crowded state of the metropolis. It is most elaborately worked out, but there are numberless obstacles to it, which have been conveniently or innocently ignored. A railway is proposed to be suspended in the centre of the street, with a roadway between it and the present thoroughfares. We cannot do more than briefly direct attention to Mr. Tarring's Jacobin design for a gentleman's mansion (884), to the four colossal trees which fortuitously favour the major portion of Mr. D. A. Deane's "New Building to be erected at Christ Church College, Oxford" (—(if it be no better than it here represented by Mr. Pollen, we fervently hope that they may always be sufficiently lively to conceal it); to Messrs. Pritchard and Seddon's brilliantly decorated organ, now in the International Exhibition; to Mr. R. P. Pope's simple, but highly effective design for St. Bartholomew's Church, London (895); to Messrs. Seddon and Mr. A. O'Connor; and, lastly, to the skilful manner in which Mr. Digby Wyatt has welded the interlaced work, and the distinctive features of old Irish architecture to the houses in Grafton Street, Dublin (900).

## GAS APPARATUS AT THE INTERNATIONAL EXHIBITION.

TO describe the improvements effected since the first Exhibition in 1851, in the manufacture of illuminating gas, is easily accomplished. For the information of some readers, it may be useful to mention, that the gas now burned for lighting all towns in Great Britain and Ireland is exclusively made from coal. Cast-iron or fire-clay vessels, called retorts, are heated by furnaces fired underneath, in which state coal is introduced into the retorts, the heat of which causes gaseous vapor to be driven off. This volatile matter is cooled by being passed through pipes connected together in the open air, when tar and ammonia water are condensed. To render the gas fit for use, all that is now necessary is to remove its two worst impurities, carbonic acid and sulphuretted hydrogen, which can be economically done by hydrate of lime. When coal has been subjected to heat in a closed vessel from four to six hours, all the useful gas is removed, and the residuum of the coal left is changed into coke, which is extracted and cooled by water. Gas made in this manner would be a fair average of the quality generally supplied. All improvements should at least either conduce to something appreciable, such as goodness, cheapness, &c.

Nothing better illustrates the alteration effected during the past decennial period than the number of exhibitors of fire-clay gas retorts. This has arisen through iron retorts being discontinued in almost every town exceeding ten thousand inhabitants; consequently, now fire-clay gas retorts are important articles in the building. Through having had the opportunity of seeing many of the retorts at the opening of the Exhibition, it could not escape observation that many are made of the finest ground clay, and unfit for practical use. The object being to give the outside of the retorts the smoothness of marble, and the inside the fineness of grain of loaf sugar. To accomplish their purpose, some of the manufacturers have entered on the cost of making and burning nearly a dozen retorts to secure a single sound one. All, however, had not succeeded in doing this, as in one a long crack may be discovered painted over with many words; in another, the perceptible hair is hid by being placed against a heavy article which would take several men to move. Why endeavour to show goods what they are not?

In order to make a serviceable fire-clay gas retort, such as will stand drying and burning without cracking, it is necessary to mix with the ground fire-clay some broken up brick previously burnt. But this method would cause the material of the retorts to have the consistency of mortar made with unsieved sand. Clay for fire-brick work should contain no lime, magnesia, or iron, on account of these substances being highly affected by the state clay from the coal. No employment is engaged in. At the termination nearly of the machinery department, Western Avenue, there are some comparatively enormous pieces of burnt fire-clay goods for gas purposes, &c., surpassing in size anything exhibited elsewhere. This part is Belgian, the manufacturers being Messrs Th. Boucher, who obtained a medal at the last Exhibition, Messrs A. Keller, and others. In Class III., Messrs Cowie, Hill, and Son show as many as thirty fire-clay gas retorts, two beautifully made gas retorts, manufactured from the Newcastle clay. Here also Messrs. William Stephenson and Son have a stall; their retorts look well, but they are thickly coated with bone ash; the same may be said of Messrs. Clift and Son's patent enamelled retort made from Wootley clay, the quality of which is probably as good as it appears; but goods of this description certainly should not be artificially whitened all over.

In Eastern Annex, Class I., may be seen a very good D-shaped retort of Stourbridge clay, manufactured by Messrs. John Hall and Co. A stall of Mr. Addison Potter contains a beautiful little model of seven fire-clay D gas retorts, set out in the double furnace. These patent retorts have both their sides solid, which permits either the top or floor to be cut and renewed when necessary; thus a setting of several patent retorts may be effectually repaired from time to time so as to last very many years. Several other advantages over the common mode is stated to be obtained by this invention. Managers of gas-works should note this for one of their objects for inspection when visiting the Exhibition. Some of the manufacturers show on their stalls samples of the fire-clay as raised by them. One has three different kinds: the first is described as best glass house pot-clay; the second as best black crucible clay, used for making melting-pots for brass, malleable iron, &c.; the third, as second black crucible clay, for making melting-pots for brass, malleable iron, &c. No chemical analysis of their fire-clay is given by Exhibitors from that part; this may be rectified on the next occasion. About two parts of silica to one of alumina forms the base of the best fire-clays; when the silica exceeds this proportion, as in the South Wales fire-clay, it is insufficiently plastic, and when alumina exists in a larger degree it is less refractory to fire.

Returning to Class X., the number of persons residing in single country houses cannot fail to be attracted by the pretty show of coal gas apparatus. At the last Exhibition there were several models shown for making oil gas, under the fancy names of vegetable gas, &c.; now not one is to be seen. "The Journal of the Board of Arts, &c.," Upper Canada, mentions "that the Canadian department at the International Exhibition should be illuminated with gas manufactured from Eschschillen Petroleum (rock oil), and

Mr. J. E. Thompson of Toronto will send one of his portable petroleum gas-retorts, with purifiers and gasometers complete for this purpose." So far from this prediction occurring, not even a single bottle of this rock oil can be seen in the Canadian department on account of the Exhibition authorities refusing to allow what has been sent to remain there, fearing doubtlessly of incurring increased risk of fire. This oil requires to be purified and decolorised by sulphuric acid and alkalis before being used in lamps. A gallon of oil, price 1s., may be fairly calculated to produce 100 cubic feet of gas, which is 10s. per 1000, exclusive of labour, furnace fuel, &c. Where expense is any object it can never compete with coal for gas purposes.

(To be concluded in our next.)

## PROFESSIONAL PRACTICE AND ARCHITECTS' CHARGES.

A MEETING of members only of the Royal Institute of British Architects was held at the Rooms, 9 Conduit Street, Regent Street, on Monday, the 12th inst., in order to re-consider the resolutions respecting professional practice and charges of architects; Mr. OWEN JONES, Vice-President, in the chair.

It was moved by Professor DONALDSON, seconded by Mr. STREET, and unanimously agreed to, that the paper of professional practice and charges of architects some time ago forwarded by the council to the members be confirmed and adopted. The following is a copy of the paper referred to:

"The usual remuneration for an architect's services, except as hereinafter mentioned, is a commission of 5 per cent. on the total cost of the work executed from his designs; besides which, all travelling and other incidental expenses incurred by the architect are paid by the employer, who is also chargeable under certain conditions, as hereafter mentioned, for time occupied in travelling.

"But in all works in which the art required is of a high kind, and the expenditure mainly for skilled labour and not for materials, as e.g. in designs for the furniture and fittings of buildings, in their decoration with painting or mosaic, for their sculpture, for stained glass, and other like works, the architect's charge is not made by way of commission on the cost, nor does it depend upon the time employed in making the design, but is regulated by special circumstances, and varies according to the skill and artistic power of the architect.

"A commission of 2½ per cent. is to be charged upon such works as sculpture, stained glass, and others of a similar nature, for which the architect does not give the design, but arranges with the artists or tradesmen, and directs the work generally.

"In works under £500 in amount, 5 per cent. is not fairly to be considered as remunerative, and in such cases it is just to the employer as well as to the architect, to charge by time or by a scale, varying from 10 per cent. for works under £100, to 5 per cent. on amounts above £500.

"The architect's remuneration is reckoned upon the value of the works, valued as if executed entirely by labour and of new materials provided by the builder.

"The commission is to be charged upon the whole value of the work executed, with the addition of 2½ per cent. upon any omissions. This is exclusive of the charge for measuring extras and omissions.

"The architect is entitled during the progress of the building to payment on account at the rate of 5 per cent. on the instalments paid to the builder, or otherwise to half the commission on the signing of the contract, and the remainder by instalments as above.

"All travelling expenses are to be charged extra.

"These rules suppose the work to be executed within an easy distance of the architect's office; but if the work is executed at a considerable or inconvenient distance from it, an allowance beyond the 5 per cent. ought to be made for the time occupied in travelling, in addition to the actual expenses.

"The percentage does not cover professional services in connection with negotiations for sites, arrangements respecting party walls, or right of lights, nor extra incidental to arrangements consequent upon the failure of builders whilst carrying out work; but all such and similar services are charged for in addition, the basis for charge being the time employed.

"Supposing that the employer, after having agreed to a design, and having had the drawings prepared, should have material alterations made, as such charge may be made according to the time occupied.

"If the architect should have drawn out the design complete, with plans, elevations, sections, and specification, ready for execution, the charge is half the usual commission above named.

"If the architect should have, in addition, procured tenders in accordance with the instruction of his employer, the charge is half per cent. extra to the usual commission.

"For works in the alteration of premises, the remuneration may be increased according to the time, skill, and trouble involved.

"All of the following requirements for the buildings are included in the ordinary charge of 5 per cent.:

"Preliminary sketches.

"Working drawings and specifications sufficient for an estimate and contract.

"Detailed drawings and instructions for execution.

"General superintendence of works (exclusive of clerk of works).

"Examining and passing the accounts (exclusive of measuring and making out extras and omissions).

"No additional remuneration is due for making such a rough estimate as

may be obtained, for instance, by enjoining out the contents. If a detailed estimate be framed, additional remuneration is due from the employer.

"An architect is bound, under the 5 per cent. charge, to provide one set of drawings and one set of tracings, with duplicate specification; it being understood that the architect is paid for the use only of the drawings and specification, and that they remain the property of the architect.

"The charge for taking a plan of an estate, laying it out, and arranging for building upon, should be regulated by the time, skill, and trouble involved.

"For actually letting the several plots (in ordinary cases), not exceeding a whole year's ground rent may be charged.

"For inspecting the buildings during their progress (so far as may be necessary to enforce the conditions being fulfilled) and finally certifying for lease, a charge should be a percentage not exceeding half per cent. up to £5,000, above that by special arrangement.

"All the above fees to be exclusive of travelling expenses, and time occupied in travelling, as before mentioned.

"The charge for the above does not include the commission for preparing specification, directing, superintending, and certifying for the proper formation of roads, fences, and other works executed at the cost of the employer, nor for getting the plans on the leases.

"The following definite charges are recognised for valuation of property:—

"The charge throughout is 1 per cent. on the first £1,000, and half per cent. on the remainder up to £10,000. Below £1,000 and beyond £10,000 by special arrangement. These charges do not include travelling expenses, nor attendance before juries, arbitrators, &c.

"The charge per day which may be made by architects, depends upon their professional position, but the minimum charge is three guineas per day.

The charge for dilapidations, when estimated, is 5 per cent. as estimated, and in no case less than £2 2s.

"It is not desirable that an architect should supply to builders quantities on which to form tenders for executing his design; but in case of such being done it should be with the concurrence of the employer, and the architect should be paid by him and not by the builder."

#### BRICKS AND TILES.\*

THE art of the brickmaker has been practised by nearly every civilised nation of which we have any record, the manufacture of bricks, and the employment of them for building purposes, dating from the remotest antiquity, and the use of that distinctive form of bricks to which we have given the name of tiles being probably almost, if not quite as ancient. Nor is this to be wondered at when it is recollected that in all countries where timber or stone are difficult to procure or to work, the natural resource must be the employment, as a building material, of baked or sun-dried earth or clay, in some shape. In such districts or provinces, however, as furnish stones of portable dimensions, or accessible and easily-worked quarries, and in such as abound in timber, the building art has often made great progress without recourse being had to artificial materials; and in these localities, bricks, being little needed, are often almost unknown, and sometimes even tiles are little employed. Certain districts of Norway and of Switzerland may be referred to as furnishing examples either of the exclusive use of timber or of its employment in conjunction with only a small quantity of stone for structures. Certain districts of France in the middle ages, and some parts of the north of England and Scotland at the present day, furnish on the other hand instances of the almost universal employment of stone with just so much timber as is indispensable, in each case to the exclusion of brick; but exceptional localities such as these afford almost the only instances of the total absence from buildings of some form or other of artificial building, roofing, or paving materials.

The Babylonians, the Egyptians, and the Assyrians, among the nations of remote antiquity, all made use of bricks, to a great extent, and in the Bible-references to this material, as made among all of these nations, are to be found. These references form the earliest authentic accounts of the employment of brick; but Josephus mentions a tradition which attributes to the sons of Seth a knowledge of their use, and which, if true, would thus carry back their origin to the very earliest period of the history of the human race.

The first mention of bricks in Scripture is to be found in the account (Genesis xi. 3, 4) of the building of the city and tower of Babel. Here the making and burning of bricks is spoken of as the first work undertaken preparatory to building, and it is worth remark that the writer incidentally betrays the fact that he was writing at a time and in a place where stone was principally, if not exclusively employed, for he says, "brick had they for stone."

The next Scripture mention of bricks occurs in the account of the bondage of the Israelites in the land of Egypt (Exod. i. 13, 14, and v. 6-19). Here we have an account of the employment of the captives in the manufacture of bricks, and also in the erection of buildings for Pharaoh.

In the history of David (2 Samuel xii. 31), we have a reference to a brick-kiln, not, however, in the territory of the Jews, but in the adjoining country of the Ammonites; for it is in that history recorded that, having

taken Rabbah, the capital of that country, David, beside other modes of destroying or humiliating the inhabitants, "made them to pass through the brick-kiln."

In the book of Isaiah bricks are twice mentioned, and in both cases in such a way as to show that they were held in low estimation as compared with stone. In the first of these passages (Isaiah ix. 9, 10), the prophet says that the people "say in the pride and stoutness of heart, the bricks are fallen down, and we will build with burnt stones." In the second passage (Isaiah lxx. 3), a long series of gross breaches of law and propriety are being recited, and among the first of them occurs the reproach that the people "burneth incense upon altars of brick."

In the book of Jeremiah we have again a reference, at a date about eight centuries after the one in the book of Exodus, to the brick-making of Egypt. The Jews at that time had fled into Egypt, and the prophet, who was at that time in Babylon, alludes to their destruction by fire of the gods of the Egyptians, was thus directed; (Jeremiah xlii. 9.) "take great stones in thine hand, and hide them in the clay in the brick-kiln, which is at the entry of Pharaoh's house in Tahpanhes."

Lastly, in the book of Nahum, there occurs a reference to the city of Nineveh (Nahum iii. 14), from which it is clear that bricks were understood to be the ordinary material applicable to the fortification of that city. Foretelling invasion and attack, the prophet says "draw their waters for the siege, fortify thy strongholds; go into clay, and tread the mortar, make strong the brick-kiln." And these references to the customary employment of brick by the Babylonians, the Ninevites, and the Egyptians will be found corroborated by the accounts of profane historians, such as Herodotus and Xenophon, and by the researches of modern discoverers.

Among these nations the use of two sorts of bricks, some of which being kiln-burnt and others merely dried in the sun, appears to have been general; the employment of glazed or enamelled bricks as a decoration for the face of walls appears also to have been common both at Nineveh and Babylon, and an immense number of glazed and coloured bricks exist among the ruins of both these cities.

Many ancient bricks show marks of having had reeds or other such substances worked up along with the material of which they were made, apparently to render it more tenacious. The Scripture accounts of the brick-making performed by the Israelites in Egypt, already referred to, shows that they were compelled to employ straw in forming the bricks they made. It was also, for many ages, customary to stamp each brick with a device, or an inscription, or both, a circumstance which has afforded much useful historical information as to the date and occasion of the erection of the buildings from the ruins of which they come; thus, for example, Mr. Layard was enabled to identify the celebrated "Birs Nimroud" as the ruin of a building of Nebuchadnezzar, by finding that every brick removed from that mound was impressed with his name. Egyptian bricks are usually inscribed, and it is enjoined by law (Smith's Dict. Antiquities, art. "Later") upon the Romans that the bricks they made should be marked. Bricks so inscribed have been found in our own country at York, and bear marks showing the presence of certain Roman legions, for or by whom they were made. The same thing has occurred in Germany, and at Caerleon. (Dict. of Arch. Pub. Society, art. "Bricks.")

Herodotus, describing the building of the walls of Babylon, says, "They made bricks of the earth, borne out from the trenches, and having drawn the earliest reference to profane history to the subject; many subsequent ones might, however, be added, relating both to the works of the earlier nations already named, and to those of the Greeks and Romans. Many specimens of inscribed bricks, the Assyrian ones being impressed with inscriptions in cuneiform characters, and the Egyptian ones with hieroglyphics, may be seen in the British Museum. For a full account of the manner, as practised by the Egyptians, of writing on bricks, engraving on a celebrated painting in a tomb at Thebes, representing the process, and for illustrations of the almost universal employment of this material, consult Sir Gardner Wilkinson's Works. (Ancient Egyptians, vol. ii. pp. 97, 98; also Manners and Customs of the Egyptians.)

The Greeks appear to have built their bricks to a considerable extent. Roman, yet it is clear that they did employ bricks to a considerable extent. Pliny informs us that the Greeks made four sizes of them, and Vitruvius also refers to the same fact. The Romans are known to have employed brick most extensively, and have left many remains of brickwork in every part of their dominions. On this point a reliable authority observes (Dict. of Arch. Pub. Soc.), "Examples might be multiplied of the mention of bricks by Greek writers;" and adds, "The mention of bricks is frequent among the Latin authors; as, for instance, in the *Commetalia De Re Rust.* lib. ix. c. 1, 2, 3, 4. Varro lib. i. c. 14. 4; Pliny, *Hist. Nat.* lib. vii. 47, xxxv. 48, 49; and Vitruvius, particularly lib. i. cap. 6, lib. ii. c. 5; who also, lib. i. cap. 3, devotes an entire chapter to this subject;" also "Palladius, apud Scriptores, *De Rustica*." The bricks of the Romans, and, no doubt, those of the Greeks also, closely resembled our tiles, being flat and hard burnt, and ordinarily of a red colour; Egyptian and Babylonian bricks are respectively more closely than in common use in our own country, both in their proportions and in colour, being frequently pale.

Some of the largest masses now remaining of Roman work, executed entirely in bricks, are to be seen at Rome on the Palatine Hill, and in the ruins of the Baths of Caracalla; but the most ordinary manner of employing bricks in Roman work was not to build with them alone, but to interpose them in bonding courses, alternating with courses of loose rubble work, and as voussoirs in turning arches over openings, or in relieving arches

\* The above article is taken from a very useful volume just published under the superintendence of Mr. Bennett Woodcroft, of the Great East Pier Office, entitled, "Abridgement of the Specifications relating to Bricks and Tiles," and printed by order of the Commissioners of Patents. Price 4s.



instances of this are universally visible in Roman remains, now that the masonry or cement with which such walls were most frequently intended to be faced has fallen away or been removed. During the Empire, the Romans often built walls of rough masonry faced with small hewn blocks, alternating with beds of brickwork, and in this description of work the brickwork was always intended to remain visible.

Roofing tiles were used (Smith's Diet. Antiquities, art. "Tegula"), both by the Greeks and the Romans; the Greeks having replaced those of burnt clay with tiles of marble in their most important buildings. Roofing tiles, and also gutters with ornamental heads for the discharge of the water, and ornaments to cover the junction of the courses of tiles, have been found at Pompeii, executed in terra-cotta, and of beautiful design and workmanship. Similar ornamental tiles have also been discovered among the ruins of the temples at Paestum, the tiles are found replacing those of marble in the mosaic pavements at Pompeii. Tiles, similar to those now employed for drain-tiles, are found in the Roman baths, built into the solid walls, where they served as channels for the conveyance of water, and possibly also of hot air.

The bricks in common use in Italy at the present day are identical in appearance with those of the Roman remains, and are used in the same way; the manufacture of them and mode of laying having alike remained unchanged. In the plains of Lombardy, however, a rich series of mediæval buildings in ornamental brickwork are found, and in other parts of Italy many examples exist of the use of brick in the middle ages, not as a groundwork to be covered with a face of some other substance, as was the custom of the Romans, but as itself the principal material used. The Campanile di St. Antonio at Padua of the thirteenth century, the Foro Dei Mercanti at Bologna, built at the end of the same century, the church of Santa Maria in Strata, at Monza, of the fourteenth, the Ospedale Maggiore, at Milan, and the Certosa at Pavia, of the fifteenth century, and the choir of the church of Sta. Maria delle Grazie in Milan, by Bramanti, at the end of the same century may be named as the most considerable examples of Italian ornamental brickwork, though numerous specimens may be found in Pisa, Siena, Ferrara, Pavia, Venice, Ravenna, Bologna, and Rome. The manufacture and use of ornamental bricks is carried on at the present day in and around Milan, with considerable success.

#### SOCIETY FOR THE ENCOURAGEMENT OF THE FINE ARTS.

A MEETING of this Society was held on Thursday at the Architectural Galleries; Mr. TUNEY in the chair.

Mr. F. Y. HURLSTONE delivered a lecture on Art in Spain, in connection with a series of lectures by Mr. Otley and Mr. Stewart, on Art in Italy, Germany, and Holland. Mr. Hurlstone remarked that the lectures of those gentlemen were exclusively confined to the modern school of art, but he proposed to devote his lecture to the Spanish art. He had no drawings to illustrate his lecture, and some of the finest productions of the Spanish masters had never been engraved. Though the Spanish school was scarcely known in this country, yet in no nation was the national art a more complete reflex of its social character than in Spain. The lecturer proceeded to remark that in the eighth century the Arabs conquered the whole of Spain, except the mountainous region of the Asturias, the cradle of the future Spanish nation, and the inhabitants of which effected the reconquest of the country, which led to the expulsion of the Moors. Spain, like Italy, worshipped her Madonna and Child, and six centuries of what might be called a religious war gave to the religion of the Spaniards an authority unknown at that time in Italy, and which stamped its impress on the art of Spain. The Spaniards were very much opposed to painting figures nude, or even of having limbs, especially those of the Blessed Virgin, uncovered. The lecturer, after stating that the works of the earliest Spanish painters for the most part perished, referred to the productions of some of the artists who flourished in the time of Ferdinand and Isabella, and suggested that there was no authentic portrait of the navigator Columbus. He next alluded in terms of eulogy to the Palladian palace of Charles V., at Granada, by Machuca, a structure of which the Spaniards were justly proud. The close of the reign of Charles V. brought to an end the classical school of art, and in the reign of his successor, Philip II., arose the school expressive of the religious feeling, and the period of great religious art. A number of the principal artists at that period, the lecturer remarked, dated from the time of the erection of the beautiful palace of the Escorial by Herrera, painting in Spain divided itself into three schools, those of Valencia, Castile, and Andalusia, and proceeded to give some particulars respecting some of the principal painters of those schools, with notices of their works and the peculiarities of their character. Painting sculpture was an art peculiar to Spain; it was an art totally distinct and apart from sculpture, as we understood it from the great works of the Greeks. He had seen works in painted sculpture which, for grandeur of composition, intensity of pathetic expression, and depth of tone and colour, were remarkable productions, and full of impressiveness. That was a department of Spanish art which he was not known in this country. The lecturer then alluded to the presence in art had passed away, pieces of this peculiar kind of artistic production might be seen in many small figures in Spain. In the time of Philip IV. the national art was swept away, but there was a revival of it at the present day, evidence of which might be seen in the works of Spanish painters at the Great International Exhibition.

The CHAIRMAN wished to know whether Mr. Hurlstone described

as the painted sculpture of Spain was painted or stained, as the difficulty in his mind was both the effect was produced upon the grey of the marble.

Mr. HURLSTONE.—The sculpture of Spain was painted with a very considerable body of colouring and several coats, but he could not tell how the effect was produced on the grey. The painted sculpture of Spain was not the same art as the sculpture of the Greeks; it was a style of art totally foreign to what was understood by sculpture, which was simple beauty; but the painted sculpture of Spain was expression of character and of all the qualities which painting possessed.

A MEMBER asked if this painted sculpture was in *bas relief* or in separate figures?

Mr. HURLSTONE said, painted sculpture was for the most part in separate figures, but there were some *bas reliefs* in that style of art; it was very seldom that there were *bas reliefs*, the art being almost confined to round figures.

In answer to a question put by Mr. ATKINSON, Mr. HURLSTONE stated that the great sculptors of Spain always coloured their own sculpture. In the great period of art in Spain many of the artists were sculptors, painters, and architects. The painted carrying was always in wood, but the paint was laid on so thick that it would not matter whether it was wood, terra-cotta, or marble.

A MEMBER thought it was a question whether wood-carving was sculpture at all.

Mr. HURLSTONE.—Painted sculpture could not be considered as sculpture in the ordinary acceptance of the term, the end of which was the production of beauty. He hardly thought that painted sculpture could be considered the same art as sculpture, but rather that it was a new art peculiar to Spain.

The CHAIRMAN did not see why the beautiful effect produced on wood should not be produced on marble, as Gibson tinted his figures and toned his draperies.

Mr. HURLSTONE.—What Gibson did was not colouring, it was only toning; he gave a slight touch of blue in the eyes, but he could not make black eyes. In 1847, when he (Mr. Hurlstone) was going to Spain, he received a commission from the English government to purchase some specimens of the painted sculpture of Spain for the South Kensington Museum; but after going over Spain he found it impossible to purchase a single specimen worth having, though he met with a vast amount of such work which was called painted sculpture. The few specimens he found he purchased.

Mr. ATKINSON.—Was painted sculpture to be found in private houses?

Mr. HURLSTONE answered, that he had frequently found specimens of painted sculpture in private houses, but there were very few fine specimens in private possession, as they were chiefly to be found in public buildings and convents.

A vote of thanks to Mr. Hurlstone closed the proceedings.

#### LONDON AND MIDDLESEX ARCHEOLOGICAL SOCIETY.

THE seventh annual general meeting of the members of the London and Middlesex Archeological Society was held at the rooms of the Institution, St. Mildred's Court, Poultry, the other day; Mr. J. B. BUTTERWORTH, F.S.A., in the chair.

Mr. HENRY W. SALK, hon. sec., read the report, which stated that the Council had much pleasure in meeting the members of the Society at the termination of the seventh year of its existence, and had to report that since the last meeting the Society had lost by death 6 of its members, and 8 had retired, but those had been more than replaced by the election of more than 32 members. The present number of members was 350. Since the last annual meeting the fourth part of the transactions of the Society has been published, and is in the hands of the members. The fifth part is in course of preparation. Public meetings of the Society were held on July 2, 1861, at the church of Austin Friars, where was described by the Rev. Thomas Hugo, and Simon College, where the Rev. W. H. Milman, librarian of the College, gave an account of the library, &c. In the afternoon of the same day the members inspected the buildings and monuments of the Honourable Artillery Company, and dined in their hall. On August 23, 1861, the Society held meetings at the town of Uxbridge, Harefield Church, Ruislip Church, an ancient preceptory of Knights Templars, and Swatley Hall, the seat of T. D. Clarke, Esq. During the day the church of Denham in Buckinghamshire was likewise visited, on the kind invitation of the Rev. C. Hall, who was in the chair at the churches and other places of interest. On April 28, 1862, the Society visited the churches of All Hallows, Barking, St. Olave's, Hart Street, and St. Dunstan-in-the-East. On this occasion the Bakers' Company kindly gave the use of their commodious hall to the members, and presented for their inspection a number of charters, books, and pieces of gold and silver. The new plain, large painting and the Bakers' Hall in the evening. The council suggested to the meeting the propriety of charging all new members with an entrance fee of 10s. This they thought desirable for the purpose of adding to the small revenue of the Society, as well as obtaining some consideration for participation in the property which the Society had accumulated. From the financial statement, it appeared that the balance of the expenses of the year, there remained a balance in favour of the Society of 235 l. 11s. The report and balance-sheet were received and adopted, and votes of thanks were passed to the President, Vice-presidents, Council, and Mr. HENRY W. SALK, hon. sec., for their services during the year.

A letter was read from Lord TALBOT MALDEN, accepting the office of President for the ensuing year. The retiring President, Vice-presidents were re-elected, with the addition of Mr. Alderman FINNIS; the retiring mem-





St. Andrew's Church, Leicester. (See Building News No. 142.)



on the beautiful hawling-green of Newton-Stewart, have, beside the fine spire and church of Penninghame, a view at once of no less than three charitable and educational institutions—namely, the Infant School, the Ewart Institute, and the "Home."

**AGRICULTURAL LABOURERS' COTTAGES.**—Slowly but surely, says the *Scottish Farmer*, the small, rickety, damp, ill-lighted, and badly-ventilated dwellings of the agricultural labourers are disappearing, and in their stead are rising dwellings more in keeping with the increase of wealth and intelligence which a quarter of a century of agricultural prosperity have brought. Some districts have advanced much further in the good work than others. In the best there are, perhaps, not more than one half of the houses of farm-servants of that one-room type which a previous generation of farmers regarded as quite good enough for their men, and the men themselves did not object to on the score of want of comfort and in any shape. In other districts, however, it is still rare to see a neat new cottage for ploughmen. The upper portion of Kirkcubrightshire might be mentioned as one where as yet little has been done in the way of cottage accommodation. There we still find cottages built of dry stone, the walls differing from a dyke in no other way than in having some lime thrown in a slap-dash way in the interstices on the outside. Drainage there is none, notwithstanding which, the houses are often built in a hollow some feet beneath the road which runs in front of them, and, as the floors are composed of nothing but natural soil, they are in a very sleazy state in winter. A foot-square window is in many instances the only source of light, if we except the door, which, to prevent suffocation by smoke, is usually left open. Numerous houses have no grates, the peats being built up on the floor, beneath where a hole in the roof does—or rather we should say, is intended, to do duty as a chimney. As might be expected, the furniture of such houses is usually in keeping with the character of the accommodation they afford. A box-bed, and one composed of slabs from the saw mill; a chest or two for clothes, three or four stools, a couple of home-made chairs, and a clock of the description there known as a "wag-at-the-ws," are often all the furnishings. The inmates are, of course, for any better word we could find of place, and glad articles would be destroyed in a week in such hotels. In these wretched dwellings there can be little or no real home comfort. The occupants, too, are not an ignorant class at all. There is no county in Scotland where education is so highly appreciated, the children beneath these miserable roofs receiving a good school education in English and French being often added to, in the case of law. We doubt, however, whether the people are so fully alive to the miseries of their accommodation as their class in some other countries would be. We say this, because we find respectable tradesmen with a bit of land, a couple of cows and an account at the bank, living in houses with little more pretension to comfort. This is no radical reason, however, for, for property in the hands of the nobles, and the landed gentry, and the middle classes are beginning to do. When we make a thorough inspection of the condition of the farm-servants in Kirkcubrightshire—as we hope to be able to do during the summer or autumn—we trust we shall be able to report more favourably upon the country generally than concerning the small portion to which we paid a hasty visit the other day, and where we noticed no change within the last fifteen years, except, indeed, that some old houses had been knocked down and no new ones erected in their stead.

**ST. PAUL'S CATHEDRAL.**—The committee have made another appeal to the nation at large on behalf of the proposed completion of St. Paul's Cathedral.

**ST. THOMAS'S HOSPITAL.**—The question of what is to be done with St. Thomas's Hospital, and where it is to go, has now become secondary to "what is to be done with the Patients?" The interests of those poor sufferers have already fallen to the ground between the two stools of Lewisham and the Surrey Gardens. The Treasurer and Committee have settled with the Government to let the Hospital to the Government, and to let a rental of at least 5 per cent. on the money which the Hospital has cost them (£296,000, besides law expenses—no small item), and will not modify the demand, the Hospital authorities—who refuse to pay a rental which is equal to half their income—are at a stupor as to what to do with their patients. An objection has been urged to the Government to the Railway authorities, by the 26th of July. An encampment of huts and temporary sheds in Lock's-fields was spoken of at first, but the idea has been laid aside on urgent remonstrance, and it is reported now that the patients are to be distributed among the Unwounded Hospitals on the other side of the river, a fixed sum being paid for board, lodging, and medical attendance. An objection has been urged to the Government to the Railway authorities, by the 26th of July. An encampment of huts and temporary sheds in Lock's-fields was spoken of at first, but the idea has been laid aside on urgent remonstrance, and it is reported now that the patients are to be distributed among the Unwounded Hospitals on the other side of the river, a fixed sum being paid for board, lodging, and medical attendance. It may call an outward attention to the distinction between Endowed and Unendowed Medical Institutions, and raise a scandal as to those who do so much for nothing and those who do so little for so much. It is not considered desirable to take any step that might not impossibly originate a commission for the management of Hospitals, and a more equitable distribution of the Government of their founder's intentions on the plan of the Ecclesiastical Commission. St. Thomas's Hospital is largely under the control of the Lord Mayor and Corporation of London. Surely some better method, or rather a method of some kind, in its management ought to be at once adopted. Might not an appeal to the Charity Commissioners be of service? Surely the Attorney-General, if called upon, would move in so important a matter.—*Communicated.*

**FARREAN WATER SUPPLY.**—A complete system of drainage and water supply to this town has been completed, comprising large deodorising tanks,

reservoir, &c., about five and a half miles of sewer, and six miles of water main. The supply of water is from two large wells, at the Farrean end of Portobello Hill, forced into the town by the aid of the 16-horse engines. The private drainage and water-supply connections have been laid on to about 600 houses; and in the course of six months, the whole of the houses in the town will be completed in a similar way. Previous to the completion of the drainage, many of the houses of this town were really unfit for habitation. The whole of the work has been designed and carried out under my direction.—*T. Buckham.*

#### CHURCH, CHAPEL, ETC. INTELLIGENCE.

**WORCESTER.**—A new district church of St. Martin's, Worcester, is about to be erected, from designs by Mr. Hopkins, architect to the Worcester Church Extension Society. The edifice will be of the middle-point or decorated style, and consists of a chancel, terminating in a three-sided apse, a north and south transept, each having an eastern window, which also communicates with the chancel by an arch; nave, south aisle; and cloister porch, extending across the west end of the church, and connecting it with the tower, which stands detached, a little to the south of the nave. This cloister will form an effective feature, and at the same time be practically useful in keeping out the noise and dust incident to the contemplated position of the church, close to a much-frequented road. The tower is bold and massive, having angle buttresses and double belfry windows, above which rises a lofty well-proportioned broach spire, to the height of 180 feet. On each cardinal face near the base is a gabled lucarne or spire-light, above these is a band of galleto; while still higher the outline is relieved by a sort of coronal encircling the spire. The nave of forty bays length, each containing a lofty two-light window. On the opposite side is the aisle, of three bays. At the west end, above the cloister, is a deeply-recessed pointed arch, enclosing a large wheel window; and at the intersection of the nave and transept rises an open bell turret. Each transept is lighted by two two-light windows, with a recessed opening in the gable. The north transept aisle will be appropriated for a vestry and organ chamber. It is intended to use the carved work, and as many of the timbers of the Gloucester Hall roof as are sound enough for the purpose. The church will accommodate about 850 persons, and, if carried out according to the design, will form a striking feature in any general view of the city.

**MR. SIMPSON'S LECTURE ON ARCHITECTURE IN INDIA.**—We are compelled to postpone a paper on the subject of Indian architecture, read by Mr. Simpson before the Royal Institute of British Architects, on Monday.

**STATUE OF PRINCE ALBERT.**—The model in clay of the statue of the Prince Consort, which is to be the munificent gift of the Mayor of Manchester to his fellow-citizens, is completed in the studio of Mr. Noble, Bruton Street, Berkeley Square. It presents a remarkably striking likeness of the late Prince, and is generally imagined to be very appropriate. He is represented, H. R. H. is represented as wearing the robes of the Order of the Garter. On the front of the pedestal will be placed the inscription:—"Albert the Great and Good." At the back of the pedestal will be inscribed the words, "Presented by Thomas Goudsby to his fellow-citizens, A.D. MDCCCLXIII." The statue is to be of the purest Carrara marble, and will be eight feet in height. It is hardly necessary to state that the model received by public subscription are to be devoted to providing the pedestal and the protecting temple in which the statue is to be placed. The cost of the temple will be defrayed by the Mayor. As usual, the men of Manchester are up and doing, while others are debating about what shall be done.

#### ON THE LIFE OF WELBY PUGIN.\*

**THE** name which he devised for his house was St. Martin's Grange. A grange, in Medieval language, was a manor-house, or farm-house of the day, belonging to a monastery. To give this name to the new dwelling was no affectation, as is frequently imagined, but very appropriate. He had just at that time professed himself a convert to the Roman Catholic church.

In mentioning this conversion I have touched what is the chief question of Pugin's biography: the key to his character, not only as a man, but as an architect and designer; and I venture to think that, if we had not seen, yet, answered the question so clearly as it might be answered,—not even Mr. Pugin, whose arguments in the appendix to Mr. Ferrey's memoir, must certainly be acknowledged to come very close to the mark. Mr. Ferrey, for instance, and others who are artists, are in line sight of the religious element of this question. Mr. Pugin, and others who are religious, can scarcely be expected to introduce effectively the element of art. Both, however, affirm that it was an actual conversion of conscience, and not a mere doctrinal creed to another creed. Others have supposed that, feeling no particular interest in either this or that creed as such, he preferred the Roman Catholic communion as matter of business.

These opinions I hope to show are both alike at variance with the character before us: the further story of his life is the evidence in point. I venture to affirm that he was a man incapable of the mercenary motive, but equally incapable of the doctrinal one. So highly do I estimate his artistic character; so thoroughly was he possessed, as I think, with the one idea therein involved; so exclusively absorbed in its contemplation, that I define his religion to have been simply Art—art-ritual, as it happened—and, consequently, Roman Catholic ritual; in other words, altogether apart from dogmas, doctrines, and confessions of faith, and essentially a doctrine of life. The artistic charms of artistic ritual, that, in the state of each ritual thirty years ago, he simply rendered his allegiance to that church which possessed the most. And

\* See p. 340, ante.



foundation of Pugin's mission. Although Pugin would listen to no Ecclesiasticism out of the Romish Church, yet it was chiefly in the English Church, and particularly amongst the High Church, that the teaching and the example of the Ecclesiasticism of the five years which we have in hand, the standard of Ecclesiasticism had been raised against the rule of Ecclesiasticism; the hand which did this being Pugin's alone. At the close of our five years this was the result.

The Camden Society of Cambridge was established for the promotion of Ritualism; the *Ecclesiastical Journal* was set on foot in the same cause. Pre-Raphaelitism and Puseyism were only names; but all over England, and chiefly under the guidance of the clergy, there were being formed one after another of the local Archaeological Societies now so numerous. And thus, as the church restoration was becoming universally fashionable; and, to end with an anti-climax for the sake of truth, and for the sake of justice to our hero's consistency, a few of the most earnest of his followers were embracing, like himself, and for the same reasons, the Romanist faith. Meanwhile, the Royal Exchange, the change of London, and the change of Liverpool, had been built as further examples of Classic art; and Gothic practice had attained that well-remembered stage of maturity which produced in 1842 the Camerwell Church of Mr. Scott, and shortly afterwards his proud cathedral church at Hamburg. We do not claim for Wells Pugin the merit of all the progress here involved; but I cannot see why there should be denied to him the credit of having been, amongst many busy workers, at least the first and busiest; amongst many earnest thinkers the most earnest; if not always the most able; amongst many enthusiasts the most enthusiastic; amongst many self-improving the most sublime. To argue that Pugin was not the leader of our present school of Gothic architects seems to me impossible; and for my own part I only wish his followers had followed him more closely, and kept more at home in England than they have done. I admit Gothic architecture more than I can admire in specimens. If Pugin had lived till now, I cannot help thinking that one of his *Trinities* would have been this—that for English work English precedents must be the best; and if he had come to recognise Protestantism, that another would have run thus: that the splendour of the splendours and arrangements of Roman Catholic ritual must be necessarily out of place.

(To be concluded in our next.)

#### PUBLIC MONUMENTS.

THE Cross is the earliest and the most national of our public monuments. It dates from the first traditions of our island history in the "Sacros stone" near Forres, and the curious monuments which have been already reproduced by the care of the Spalding Club in the "Sculptured Stones of Scotland." Four crosses still stand on the consecrated shores of Lona, where it is reported that 360 of these venerable monuments once marked spots dear to piety and affection. The large Lona cross in front of the cathedral is a monolith column of the hardest white rock, 14 feet high, 18 inches broad, and 18 inches deep. It is fixed in a hole forced out of a massive block of red granite about 3 feet high. "The labour and art," says Mr. Graham, "of quarrying such a column, of transporting it to the island, and of carrying and erecting it when it was brought, are circumstances really astonishing when one considers how inadequate the power and the skill of this part of the country would now be to such a work." It would seem that the practice of erecting these crosses lasted in Lona down to the Reformation, for that of Abbot Mackinnon, still standing, bears date as late as 1489. For monuments on a comparatively small scale, connected with the memory of the dead or with ecclesiastical associations, we know of nothing comparable in effect to these crosses, and their monolithic character gives them importance and extreme durability. But under the denomination "cross" we include not only the principal monuments of a rude antiquity, but some of the most exquisite remains (almost too few) of Gothic architecture. Most of the cathedrals had their "cross" in the precincts of the chapter-house: thus Paul's Cross was the scene of the great ecclesiastical debates of the Middle Ages and the Reformation, and also the Forum of the citizens of London—though indeed Paul's Cross had no claims to monumental beauty, it, as Strype states, it was merely "a great cross of timber, mounted upon steps of stone, and covered with lead."

These mediæval crosses had not necessarily an ecclesiastical character. The Cross of Coreray, which was the most elegant and splendid fabric of the kind in England, was built in 1541 by a bequest from Sir William Hollis to the city for municipal ornament. It was of a hexagonal shape, 67 feet high and 42 in circumference, decorated with the most elaborate tracery of the Italian style. It was taken down by an "importing" corporation in 1776. The crosses of Cheddar, Malmesbury, and Chichester are small noble buildings of the form which may also be seen in the curious, though not very pleasing, Royal Cross of Aberdeen.

The crosses which marked the transport of the body of Queen Eleanor from Hereby in Lincolnshire to Westminster, have all but disappeared: that which occupied the well-known site in the village of Goring (supposed by some to be derived from *chère Reine*), still lives in the name of the busiest thoroughfare of western London. The crosses of Geddington and Northampton (the Queen's Cross) are preserved, and the cross of Waltham, erected on the same melancholy occasion by the piety of Edward I., has recently been most skillfully restored. It is a hexagon, each side of the lower story divided into two arches, charged with the arms of England, Castile, Leon, and Portugal, the upper divided into three, the story next above upon tabernacles, intersected by pillars, the niches being filled by

\* Antiquities of Lona, p. 22.

† The reader interested in this subject will find an "Essay on Ancient Stone Crosses" of considerable interest, though by no means complete, in *British Antiquities of Great Britain*, vol. I. No. IV. The author of the "New History of the Friends" contains the best notice we have seen on the ancient stone cross of this island.

appropriate figures; and the third story rises in solid masonry to support the shaft of a plain cross on the summit. In our judgment, no monument designed to commemorate the death of a more glorious and more important man than this. It admits of the introduction of sculpture, it admits of inscriptions; and provided it be suitably placed, as, for example, in the quadrangle of a college or a cathedral close, it may unite all the conditions of a Christian and English monument. Indeed, the example of the Scott monument at Edinburgh, which is in fact one of these crosses, shows that it may be placed with impunity in the thoroughfares of a great city, which has in other respects nothing of the mediæval character. We confess that we regret, that the monument erected at Scutari, by order of Her Majesty, to record the gallant endurance of the British army in the Crimean war, did not assume the shape of one of these eminently national structures, endured to us by historical tradition and religious associations, in place of the obelisk of Cornish granite which has been placed there.

Some years ago the present Duke of St. Paul's, who was then a count of Westminster, proposed the erection of a monument to Caxton, near the Almoyn, Westminster—that being the spot where the first English printing-press had been worked. The proposal was well received and supported by a small number of accomplished persons, who felt the fitness and grace of such a memorial; but it did not excite much public interest, and, for want of funds, it fell to the ground. We now allude to it for the purpose of noticing the very appropriate character which Dr. Milman had wished to give to this monument. He suggested that an ever-flowing fountain, combined with a statue of the first English printer, would be no inapt symbol of the spring opened by the printing-press to the knowledge and improvement of mankind. No doubt the introduction of fountains, in itself a desirable and refreshing thing in large cities, might, with excellent effect, be combined with many of the improvements which we are now striking fountain-monument to Mohr, and many other examples might be cited in Rome and elsewhere of fountains which have a monumental character. In their way, though they are for the most part unpretending and diminutive, many of the drinking-fountains lately introduced in London, and several other large towns, deserve to be noticed among our public monuments. They are in every way grateful. They offer a simple refreshment, which often diverts the mind from every labour on the ground. They make a kindly feeling towards the humbler classes by giving to every man "a cup of cold water;" and as specimens of art many of these little works are very pleasing additions to our street architecture. They serve to show how much more might be done with the introduction of a conduit of running water, when a more important monument is contemplated and more ample funds are forthcoming. Europe is so full of it, that it is not even as *Leviathan* in the aquatic world, or as the little beautified with the freshness of streams above ground. A fountain on an imposing scale is still wanting to the metropolis, and, as far as we know, there is not a town in the United Kingdom which can boast of a good one; yet fountains may well be ranked amongst the most pleasing and useful of public monuments.—*Edinburgh Review*.

#### FIRES IN LONDON.

(From the MECHANIC'S MAGAZINE.)

THE Select Committee, appointed some three months since by the House of Commons, to enquire into "the existing state of Legislation, and of any existing arrangements for the protection of life and property against fire in the Metropolis," have completed their mission, and made their report. This has been published, and it may be well to investigate its contents. The alarming increase in the number of destructive fires in London during the last few years, and the apparently quite inadequate means possessed for their suppression, had, indeed, rendered legislative enquiry necessary. The Committee set out in their report with a statistical comparison of the number of fires in London in past years compared with the number which occurred in 1861. For example, they state that in the year 1833, 458 fires occurred in the Metropolitan districts, whereas in the year 1861, the number was 1,183. So startling an augmentation forms of itself a severe consideration of the existing arrangements for the prevention of fires, that it needs no argument to sustain it. The area of the Metropolitan police districts includes, according to Sir Richard Mayne, 317 parishes, with a population of about 3,000,000, residing in 462,000 houses. The rateable income for taxation in the mammoth town and its immediate suburbs is about £13,500,000. The extent of space included in the calculation is bounded by a radial line of 16½ miles, with Charing Cross for its centre, and this gives, therefore, an area of 700 square miles. The City of London, however, is not included, but within its boundaries are 97 parishes, with a population of about 215,000, containing some 25,850 houses, and a rental for rating of £1,327,000. Thus it appears that the whole of the Metropolitan police districts, and the City of London together, may be considered as containing rather over 3,000,000 of inhabitants, in about 745,000 houses, whilst the rental for rating may be taken in round numbers to be £14,800,000.

These facts and figures convey a clear idea of the range and importance of the enquiry conducted by those who are charged with the guardianship against the disastrous consequences of accidental or incendiary fires. The Committee state that "the only existing Act of Parliament for the prevention of loss by fire, affecting parishes within the bills of mortality, is that of the 11 Geo. 3, c. 78, and called 'an Act for the further and better regulation of buildings and party walls, and for the more effectually preventing



mischievous fire within the Cities of London and Westminster, and other liberties thereof, and other the Parishes of St. Marylebone, Paddington, and St. Luke's, at Chelsea, in the county of Middlesex." The clauses in this Act, which relate especially to protection against fire, are those numbered from 74 to 86, both inclusive, and they are still in force. The other parts of this Act have been repealed. By the 76th clause, every parish is obliged to keep one large engine, and one small one, termed a hand-engine, besides a leathered pipe, and a certain number of ladders. A provision, moreover, exists in the 3 and 4 Will. IV., c. 98, 344, and hence the "Lighting and Watching Act." This extends to England and Wales, and it empowers inspectors appointed under it to provide and keep up two fire-engines. Certain parishes, without the bills of mortality, have availed themselves of that provision. The meagreness of all these arrangements is sufficiently obvious, and meagre as they are, they have not been attended to.

The Select Committee state—and it will conduce to a more exact understanding of the whole question if we reproduce the substance of their statement—that for many years previous to 1832, the principal fire insurance offices kept fire-brigades at their individual expense. To these brigades were attached a considerable number of men usually occupied as watermen on the Thames. These latter received payment only on the occurrence of fire, and they wore the badge and livery of the various companies by which they were subordinated. These fire-brigades were considered as giving notoriety to the different insurance companies, and a rivalry was maintained among them, productive of good sometimes, and considerable evil at others.

The expenses and inconvenience arising from this unsatisfactory state of affairs induced Mr. R. Bell Ford, a director of the Sun Fire Office, to make, in 1832, an effort to reform the system. This consisted principally in a proposition for the amalgamation of the guerrilla bands—as they might be termed—into one body. Mr. Ford's plan was adopted, and hence sprang into existence the London Fire-Brigade. The leading Metropolitan insurance offices contributed their quota to the support of the brigades on conditions laid down by representative committees from the various companies. Without tracing the subsequent changes made in the mode of governing the London Fire-Brigade, it may be stated that at its organisation in 1832, it consisted of 127 men, and 12 engines, and cost £8,000. The cost of the brigade and its appliances in that year was £8,000. This expense has been gradually increasing, as has the nominal strength of the body and the number of engines employed.

At present the London Fire-Brigade consists of 127 men, and the stations are 20 in number.

The destruction by fire of the Houses of Parliament, in 1834, very naturally drew the attention of the Government to the means for suppressing fires generally in London. It is only justice to the fire insurance companies then in existence to say that they admitted the inadequacy of their arrangements for preventing and overcoming fires. A suggestion was also made, at the same time, for placing the parochial engines under the control of the Metropolitan police. This latter notion might, if realised, have been attended with some good possibly, but the Government of the day did not adopt it, and so the fire-brigade has remained with all its anomalies and shortcomings—as regards the system, we mean, upon which it was based—until now.

It is needless to recapitulate the arguments for the reconstruction of the London Fire-Brigade which were energetically urged in the pages of this Magazine immediately after the great fire of last year, because that disastrous event, and the innumerable catastrophes of a similar though less numerous kind, which have happened since, have demonstrated absolutely the necessity for such change. But it is certainly refreshing, and encouraging to find from the report now under notice that "the insurance companies addressed on the 21st of February last," the very day after the first meeting of the Select Committee, "a letter to the Secretary of State for the Home Department, stating their wish and intention to give up the brigade at as early a date as may be consistent with the formation of new and efficient arrangements for the protection of the Metropolitan area." In the same communication that, "so long as the expense was moderate they did not object to incur it; but now it had assumed a magnitude which they cannot continue to bear, and that they consider that the public of London have no claim whatever on their respective offices for protection against fire." It certainly was rather late in the day for the companies to admit their deficiencies, and admit the inefficiency of the staff comprising them as the suppressors of London fires; but it is satisfactory to find them, at last, so completely in accord with the public sentiment. The fact of their being so renders legislation on the subject more facile, because now there are no dissentients to the needed reformation of the fire-brigade. The fact was, that the system, having outlived its time, its abolition will be hailed, by the vast and populous districts of the Metropolis, with real satisfaction.

There is no reason to doubt the efficiency of the staff comprising the Insurance Companies' Fire-Brigade, so far as personal courage and determination is concerned. On the contrary, they appeared to have been well selected and trained, and, in many instances, their services have been of immense value. There is no reason, therefore, why officers and men should not be absorbed in the more extensive organisation which it may be trusted, will presently be called into being to supplant it. Indeed, this Committee recommend some such step as this, and there can scarcely be any objection to offer to it.

There is much valuable evidence adduced in the report, with regard to fires generally, and the means adopted in the large cities and towns of the

kingdom for preventing and overcoming them. As respects large establishments in London, too, the committee have sought out, and now given to the public, a considerable amount of useful information. The dock companies have taken special care to make themselves, to a great extent, independent of extraneous aid in the suppression of fires which may break out on their premises. The East and West India Docks are particularly well cared for, as touching this matter. So is the Royal Mint; and among private firms who have endeavoured to provide means, not only for the preservation of their own property, but of that of their neighbours, too, we may mention Messrs. Brown, Lenox, and Co., of the Isle of Dogs, and Mr. Hodges, of the great distillery at Lambeth.

Honourable mention is made in the report of the "Society for the Protection of Life from Fire," and undoubtedly that society has proved of inestimable value in many instances. It is just one of those institutions of which England may be legitimately proud, and of which we happily possess a considerable number. Supported as it is purely by voluntary contributions, and having for its object the saving of human life, it is to the Metropolis what the National Life-boat Institution is to the rock-bound coasts of England—a guardian and friend to those who are in imminent peril. No less than £7,000 per annum have been subscribed for the support of the Society for the Protection of Life from Fire for eighteen years, and this speaks eloquently of the benevolent disposition of our countrymen. Into the question of affording a more adequate and ready supply of water for the purpose of suppressing fire in the metropolis, it would be premature for us now to go. It is one which will have to be considered, nevertheless, in conjunction with that of the formation of the New Metropolitan Fire-Brigade, and at the proper time we shall advance an opinion as to the best mode of effecting it. There are several other points connected with the Report of the Fire Committee which will be referred to in another article. We most cordially concur in the general conclusions of the Committee, which conclusions, indeed, embody the propositions offered last year in our own pages. There are but three absolute and official recommendations offered to the House of Commons in the report, namely:—

"1. That a fire brigade be formed under the superintendence of the Commissioners of Police, on a scheme to be approved of by the Secretary of State for the Home Department, to form part of the general establishment of the Metropolitan Police, and that the acts requiring parishes to maintain engines be repealed."

"2. That an account of the expenditure of the New Police Fire-Brigade be annually laid before Parliament, together with the general police accounts, in such a manner that the special cost of the brigade may be ascertained."

"3. That the area of the new fire brigade arrangements be confined within the limits of the Metropolitan Board of Works, with the option to other parishes to be included, if within the area of the Metropolitan Police."

The policy of confining the action of the brigade to the limits named is not transparent; but it is only "recommended" that those limits be observed, and probably the House in its wisdom will extend them.

## THE DIGNITY OF LABOUR.

MUCH has recently been said about the glories of the International Exhibition, but up to the present no speakers and writers have been almost altogether oblivious of the claims of labour and the labourer. Commissioners, jurors, guarantors, exhibitors, and others, have had bestowed on them criticisms in abundance; but the *workman* has been forgotten. Even the language poets, and the word of praise, and the word of warning, for him. What said Eliza Barrett, while in this country, in 1851, when the first International Exhibition gladdened the eyes of millions? Listen!—

"During the last months of 1850, thousands and tens of thousands of the well-skilled artisans of Prussia, Austria, and other German States, and the peasantry of France, Italy, and Spain, were training their fingers to the bloody trade and weapons of war. And was this the time?—was this the juncture of favouring opportunities for the Great Exhibition of the arts and industries of all nations? No its originators believed. Against the mind of the million they believed it steadfastly. To their faith the *now* had come for the complete realisation of the magnificent conception. Unaided by legislation, with no governmental power or authority to lean upon, they went on their idea, derelict among the divided populations of the earth. It dropped into the hearts of peoples like a still small voice of Divine inspiration. It permeated the minds of the masses, and touched their sympathies to the finest issues. It worked upward into the highest ranks of human society, and downward into its lowest conditions; and permeated and united all with the common sentiment, that the great day of Uxerxes: Lancers had come, when it was to be crowned with glory and honour, and the homage of potentates and peoples. Away upon the sea, to distant islands and continents, flew the summons of that thought; and the sons of toil, of every handicraft, and clime, and colour, opened their hearts to its message; and it thrilled their fingers with such ingenious activities as never before wrought in the mechanical creations of human skill. The great day of Lancers had come. The queen of all the earthly conditions of human life was to be brought to her throne, with kings and queens as her train-bearers, with shoutings of grace and glory to her sceptre from the many-tongued myriads of her subjects. Labour, patient, peaceful Labour, that from the

closed gates of Paradise went forth weeping into the wilderness of life, and tracked it with the red pathway of her bleeding feet; Labour, that had made bricks without straw in Egypt, and lain pale and hungry, and begged for crumbs on the doorsteps of palaces, and with his blistered hands had filled with dainties which the eye and appetite of ungrateful luxury could not enjoy; Labour, that had walked and worked her way through the barbarisms and feudalisms of the past, with the fetter-prints of bondage still fresh and crimson around her limbs; meek, lowly-minded Labour had come to her immortal rest, to the day of her august coronation. And her lowly men of might, who wore in their sunburnt foreheads and in their horny hands the dusky signs of their loyalty, felt that her day was come. And with a new sentiment of dignity, the peer-wards of distant seas, with strong and downward bent, descended to deeper fathoms of the ocean's depths, and searched its shining bed for 'gems of pure light serene' than ever shed their lustre on regal courts; the diamond-diggers of different zones hunted with new ambition for the costliest stones of the earth's treasury to strew the coronation jewels of Labour; and the treasure of frozen regions, and the fisheries of the Poles, the men of the mines of deeper fathoms than the sea; the diggers and workers of all the precious and useful metals and minerals which the earth contains; the workers of the spindle, shuttle, and needle; the artisans of hostile countries forgot their nationality in the sentiment of the dignity of their common condition, and all wrought, with the highest enthusiasm of their genius, to bring the masterpieces of human art to the service of Labour; and the kings and queens of the earth felt that the first jewels of their crowns owed their lustre to Labour, and they brought them forth to shine among the gems of her coronation, in the great Temple of Peace and Concord. And the first queen of the world acted as bridesmaid at the royal robing of Labour, and in sight of the congregated nations she set the tarsi of the world's homage on her brow, and gave her a glorious benediction, to the dignity of universal humanity, as the first-born, and fairest of the earth's offspring of Omnipotence. And who among the thousands that filled, or the exulting millions that surrounded, the Crystal Temple on that august occasion, could doubt that its illustrious noad had come, with its world-fall of the finger-prints and finger-guidings of Divine Providence; with its favouring sympathies beaming fellowship in the bosoms of nations; with auspicious and unprecedented opportunities for the realisation of this magnificent scheme of peace and human brotherhood?"

#### MR. WILLIAMS ON ECCLESIASTICAL ARCHITECTURE IN GEORGIA AND ARMENIA.

ON Tuesday evening the Rev. GEORGE WILLIAMS, B.D., of Cambridge, delivered a lecture at the Antiquarian Museum, South Kensington, "On Ecclesiastical Architecture in Georgia and Armenia." In the unavoidable absence of Mr. A. J. Benson-Hope, the President of the institution, the chair was occupied by Mr. Joseph Clarke, who was accompanied by a number of drawings and plans. The lecturer said:

"In proceeding to perform the task which I have undertaken, of bringing under your notice some of the ancient Ecclesiastical Monuments of one of the most venerable and interesting churches in Christendom, I think I shall best engage your interest in the subject, if I ask you to follow me on a short Ecclesiastical tour, which I made on the banks of the River Kur, the ancient Cyrus, in August 1860, visiting the churches and convents in the same order in which I saw them, but without entering into any incidents of travel, which, however interesting, have nothing to do with the proper subject of this paper.

"We must then commence our survey at the picturesque village of Borjomi, the summer residence of the present Viceroy of the Transcaucasian provinces of Russia, as it was of its predecessor, Prince Baryatinsky. I must allude to the Viceroy without paying a tribute of gratitude to Prince Baryatinsky, through whose courtesy and kindness I was enabled to undertake these expeditions on which I collected the notes which I am to bring before you this evening. I had not been five minutes in conversation with him at my first interview, when he referred to the numerous monuments of ancient Christian architecture, which are found in the forests about Borjomi, and when he found how deeply I was interested in the subject, he first conducted me himself to the two churches which I shall first describe, and then engaged for the kind services of Prince Tomanoff, the Governor of the province of Abkhazie, to facilitate my expedition to the Upper Kur, where he told me some of the most interesting and remarkable ruins were to be found.

"I was so fortunate as to have for my companion my friend Mr. Wills, whose very accurate drawings of several of these churches will serve to convey to you a better idea of them than any mere description could do. They are executed by himself, from sketches made on the spot, while I was busy with my measuring tape, making as careful a survey as time permitted of the various buildings, which I proceed to describe in the order in which they were seen on our tour, firstly, because the measures, and elevations, and plans, which I give, differ materially from those which are found in the works of Broeset and Dubois de Mont Perreux; which last named worked is utterly untrueworthy, so far as my own observations qualify me to go; and secondly, because Mr. Broeset's book has been of great service to me for the translations of Georgian inscriptions, furnished to him by a native of the country who travelled with him.

"With these preliminary remarks, I proceed to a description of the Convents, Church, of Taboravank, which I have not found elsewhere described. I visited it twice; first, on the evening of my arrival at Borjomi, in company with the Viceroy, and again on my return from my expedition to Abkhazie, for the purpose of taking the measures which served as the elements of the Plan and Elevation which you will see before you. This convent was situated in a fertile valley, at the distance of about fifteen miles from Borjomi, near the mountain-stream of the same name, which debouches into the Kur at the village, after a

circuitous course through rocky valleys at the foot of lofty hills, covered with rich and variegated foliage.

"Of the convent buildings nothing remains except the massive ruins of the great entrance gateway, and fragments of walls, and foundations all overgrown with rank vegetation. All these fragments indicate that the convent was built of red brick, as is also the church, with the exception of the south porch and the roof, which are all constructed of stone. The walls are of excellent masonry, and at the joints, as in leaden roofs, and a bold overhanging cornice. The exterior ground-plan of the church, which is in excellent preservation (considering that it has been abandoned now for many years), is an oblong parallelogram of about 65 ft. by 48, and rises in front to a point in the centre, the height being 18 ft. 1 in. from E. to W. interior measure, and another at the south which measures internally 18 ft. 8 in. from W. to E., and 14 ft. from N. to S. But though the ground-plan is a parallelogram, the roofing indicates that it is a trachion, with a polygonal lantern of twelve aisles, rising from the intersection of the transepts.

"I proceed to a survey of the interior: It consists of nave, with side aisles, a transept, extending the whole width of the building, and a well-developed sanctuary, flanked, with *prothesis* and *apotheca*. The interior measures are as follows: from W. to E., the nave, 22 ft. 9 in.; the transept, 17 ft. 10 in.; the sanctuary, 16 ft. 4 in. The nave is 18 ft. 3 in. wide; the aisles 6 ft. 5 in., exclusive of the piers, which are 4 ft. 3 in. each; giving to the church a total length of 56 ft. 10 in., and a depth of nearly 47; but small as the measurements are, the church conveys an impression of great dignity and solemnity. The nave is of only one bay, and is separated from the aisles by pointed arches, the flat surfaces of which are decorated with frescoes, representing gigantic figures of kings or princes apparently, as they have a martial appearance, and as they wear a costume very similar to the Persian and Turkish, and armed with scimitar-shaped swords, still seen in this country and among the Caucasian tribes. In the centre of the arch is a cross, between the heads of the figures. The aisles are covered with fluted rods of massive stone, leaving a low clerestory below the arch, which has the nave roof which is not pierced with light, but is lighted with a double-light window on the south, and a triplet on the north, quite of a Norman character. The walls of the transept were formerly covered with frescoes, but they are not so well preserved as those of the nave. The lantern rests on piers, supported by two massive octagonal columns on each side, and on responds in the extremities of the *parabeta* (wall of the sanctuary) on the east, and is exquisitely light and elegant. Unfortunately I had no means of ascertaining the height, so that in this particular my elevation is conjectural. The apse, which was an apsidal termination, was of the same character as the *prothesis* and *apotheca*; the former of which communicates both with the sanctuary and the north transept, while the latter opens only into the south transept. The sanctuary is lighted with three round-headed windows, very much played, the flanking chapels with each of a double character. A small apse, which is the apse, left in the thickness of the wall, the *mythos* of the eastern as of the western churches; and at some height above this the wall is decorated with a horizontal band in fresco, of arabesque character. The arches are all devoid of mouldings, and the church must have been more dependent on its proportions and artistic decoration than on its architectural sculpture, which the great and solemn effect which even in its deep decay it still retains. It appears to belong to our date, except the west and south porches; but as no inscription is to be found in any part of the building, and there is no 3000 years. I am acquainted with within the realm of the architect, I fear that the light upon the date of this very interesting church, which I must mention is called *Comethan* by a great Georgian authority, cited by Broeset, whose name I will not attempt to pronounce (M. Dimitri Mghvintshi-Khontskis-Chvili), and whose brief description of the Monastery contains nothing of importance.

DANA.

On our return to Borjomi, about half-way from Timothessan, Prince Baryatinsky conducted me to another church, at a short distance from the road, hung on the steep side of the mountain, where it descends into a valley watered by the Borjomi river, which meanders through it. This small gem of a church is situated under an overhanging rock, fringed with foliage, out of which it might almost seem to have sprung. So exquisitely fine and so lovely, that the stone are scarcely visible under the profusion of arabesque ornament, with which the whole of the west front is covered; as fresh as if it had been executed yesterday.

"This church was a complete contrast in plan and proportions to that which I have just described; but I afterwards found reason to believe that this was a type of a village church, as that was of a large convent or cathedral church, and that it was a happy accident which thus introduced me to two typical churches in my first essay in Georgian ecclesiology. The Church of Dula consisted of a rectangular chamber, terminating in an apse, the choir of which was the whole width of the chamber. The rectangular part is divided into two bays by pilasters in the side walls, and is lighted by small round-headed windows in each bay, with another in the apse, all very much played. All these windows are of a richly decorated exterior, and the arches are all like them, surrounded with bands between the mouldings, deeply chiselled in the stone, the east window being richest of all. The west front, however, is the most richly ornamented part of this beautiful little church. It consists of a flat-headed doorway under a lofty round arch, with a plain tympanum, the door itself being set in a square head frame of two orders, the flat surfaces of which are adorned with rich arabesques, similar to those round the east window. An inscription in Georgian characters, in excellent preservation, is carved on the lintel of the door. Over the circular arch is another window similar to the exterior arch, like them surrounded with bands of arabesque ornamentation; and above this, in the angle of the gable, is carved a small cross. The heavy, overhanging cornice, and the ribbed stone roof, complete this exquisite composition, which measures only 37 ft. 4 in. by 22 ft. 6 in. The walls are of excellent masonry, and the church is in an eastern wall giving no indication externally of the apse which exists within.

Happily, this building is dated in the inscription on the lintel, the letters of which are deeply cut and filled in with vermilion. I used not trouble you with a list of the names of the persons who were present at the consecration of the church. That the church was dedicated to the Incarnation, and was built by the Chancellor of the Exchequer ("Chief of the Treasury," is the literal translation) of





## THE CHAPTER HOUSE, WESTMINSTER ABBEY.

DOWN at Westminster, east of the Abbey cloisters, from which it may be approached by a vestibule (possessing a room known as the Chapel of St. Blaise on the left), is an octagonal apartment, some sixty feet in diameter; to the ordinary visitor a glance inside the doorway would serve to satisfy curiosity, and he would probably leave with the impression that it had been erected to serve the purpose of a store-room; the walls are partially hidden by great, clumsy, and now nearly empty presses; there is a wooden staircase leading to a gallery; a rough ceiling that does no more than enclose the upper part; and an ordinary wooden floor. True, in the centre of the room there is a Purbeck marble pillar, but the lower part has been long hidden, and the vaulting ribs which spring from the caps pass abruptly through the ceiling. In fact, there is nothing about the general appearance of the room to lead the casual observer to suspect that it is anything else besides a badly-planned storehouse.

But this room — it is the Chapter House of the Cathedral, though long known as a "Record Office" — was begun to be built as early as the year 1245, and when completed, a work of extreme beauty; the Chapter House at Salisbury, better preserved, was built in imitation of it, but, says Mr. Scott, it would have "yielded the palm to its prototype at Westminster."

It has been Mr. G. O. Scott's good fortune to have discovered the value of this architectural gem, and he has set himself earnestly to work to secure a wide appreciation of the importance of preserving, in a restored condition, a fine work of art. Few imbued with a love of art, perhaps none besides Mr. Scott, have had an opportunity of examining in detail the various portions of the structure. The plan, as we have before said, is octagonal; the diameter about sixty feet, and the height, to the crown of the vaulting, about fifty-four feet. It may be noticed, that the diameter agrees very nearly with that of the chapter houses at York, Salisbury, and Lincoln; Mr. Scott suggests, that probably the polygons were in each case inscribed in a circle of about sixty feet diameter, measured perhaps in the clear of the shafts. The central pillar, about thirty feet high, is of Purbeck marble, and on plan it has a central shaft surrounded by eight smaller shafts, with three moulded bands; the capitals, of marble, are richly carved. The windows are almost entirely walled up, but the design has been preserved, owing to the fortunate accident that the tracery was repeated on one side of the octagon attached to the transept of the church; they had four lights, and were finely proportioned. The window over the doorway, however, being, in consequence of its position, shorter than the others, had five lights, and these, on examination, were found to have been walled up with stone, instead of brick, as was the case with the others; it turned out, eventually, that the stone filling consisted entirely of the moulded ribs of the lost vaulting, "carefully packed like wine-bottles in a bin, with the moulded sides inwards." Below the window, sufficient has been traced to show that the walls were occupied by arcaded stalls, with trefoiled heads, the five which occupy the eastern side being of superior richness and more deeply recessed. The capitals are of Purbeck marble, and the spandrels are diapered, usually of the pattern common in the church, but in one case exhibiting a conventional representation of roses. The walls within the arcade are covered with paintings, which are thought to represent our Lord exhibiting the mysteries of the Redemption to the heavenly host. Sir Charles Eastlake and Mr. Seeley are both of opinion, that this work was executed about the middle of the fourteenth century. Paintings of later date of inferior character occur in other parts of the arcade. The doorway was originally double, with a central pillar and a circle in the head, now almost entirely destroyed; the jambs contain on the outer side four Purbeck marble shafts, with marble caps richly carved, the spaces between the shafts being foliated; the arch contains two orders of mouldings, both enriched: one on either side contains a series of figures in the intervals of the foliage. Unfortunately this fine doorway, which still bears distinct traces of colour and gold, was not long since rapidly crumbling to pieces; the surface being so disintegrated that it was not ventured to clean it by any rougher process than that of blowing away the dust by a pair of bellows with a flexible tube and nozzle. After this was done, under Mr. Scott's direction, a solution was injected from a finely perforated rose sprays, so as not to disturb the crumbling surface. The floor is the only part of this interesting structure which remains perfect, and it is nearly so, having been protected by the wooden floor. It is, perhaps, the finest specimen of old work of the kind now existing. Of the exterior unfortunately but little remains, but Mr. Scott thinks, that although at first its restoration seemed to be extremely difficult, subsequent examination proved that such was really not the case, and that the whole of the exterior could be restored, with the exception of the parapets and pinnacles, in accordance with the original design.

A meeting, convened by the Dean of Westminster, has been held in the Chapter House for the purpose of taking into consideration what steps are most desirable for its restoration, and we earnestly

hope that a monument of past ages, interesting, not only on account of its antiquity, but also, and chiefly, on account of its architectural beauties, as this is, will not be allowed to remain in its present state, so disgraceful to those whose care should be its preservation, a day longer than is required by the preparations for its proper restoration.

If there was any doubt about the possibility of its being restored to its former design in all its integrity — if there was any suspicion that money was about to be expended in the erection of a new Chapter House of modern design, we should hesitate before assenting to such a course, and possibly might see reasons for objecting to it altogether; but Mr. Scott tells us distinctly that, not only the interior, but the exterior also, where the task looks far more discouraging, can be restored "in accordance with the original design." There is no question, therefore, as to the nature of the restoration we can have; there should be none as to the desirability of effecting the work, and there is no doubt as to the architect to whom it should be entrusted. The only difficulty that crops up is an uncertainty as to who is to pay for it.

Lord Ashburton, who occupied the chair at the late meeting, of course saw this difficulty, but it is not clear that he was also able to see a way out of it. If we lived under a despotic government, he said, we should probably see that the Chapter House would be restored by the edict of the reigning monarch; as it is, the only course that suggested itself to his lordship's mind, was "to lay the case before the public, in order that if, at any future period, they should find a government willing to propose a measure of restoration, it should have such a support from without, as should enable it to carry its measures through Parliament;" and meantime, the building should go on crumbling to pieces! A suggestion has been offered, that application should be made to the Ecclesiastical Commissioners; but the Chapter House is public property, and the Commissioners cannot deviate from the provisions of the Act under which the Commission is appointed. It seems to be understood generally, that it is of no use to ask Parliament for assistance at present, but that if a goodly proportion of the required amount be collected by public subscription, the House of Commons might consent to grant a vote in aid.

If the Chapter House is national property, — and it is so, — we contend that, supposing it to be desirable to restore it, the duty of providing funds for the purpose, and that at once devolves upon the guardians of the public purse. There may be some who care sufficiently little for art as to object to the very small proportion which in such a way they would contribute, but there are also many who care a great deal for art, whose end is the bettering of our natures, and these it is not fair to ask alone to undertake a work in which, as it is for all, all should join.

The French have restored the Sainte Chapelle, and it is one of the places which all visitors to Paris go to see. Our Chapter House at Westminster, restored, would be a finer building than that at Paris, in which there are certain errors with regard to the colouring that should do well to avoid; and yet it is to be allowed to crumble away for a few more years, until the last trace of its former beauty has disappeared; and that because, while spending hundreds of thousands of pounds in wanton waste, we are told that the nation cannot afford the twenty or thirty thousand pounds required to transmit to future ages a work which contains the very spirit of our earliest English architectural art.

The meeting on Saturday, which included Mr. Borsford Hope, Mr. Tite, Mr. Scott, Mr. Clarke and others, passed a resolution, "That this meeting regrets the ruinous condition of a building so interesting, both as an architectural monument, and on account of its original architectural beauties as the Chapter House at Westminster." We quite agree with Mr. Cochrane, who pointed out that the resolution stated that the ruinous condition of the building was to be regretted, whereas we ought to look upon such a state of things with a feeling of shame. He said truly, that it is a disgrace to the country, that our public monuments are allowed to fall into decay. That foreigners make severe criticisms upon our public buildings, and that such criticisms are well grounded. The meeting was further impressed, "with the desirableness of bringing the question of the restoration of the Chapter House under the consideration of Her Majesty's Government;" and it was also determined that a committee should be formed to nominate a deputation to the Chancellor of the Exchequer, for the purpose of presenting a memorial to the Treasury, and for taking such other steps as would promote the objects of the meeting.

It is quite time that the parsimonious and false economy with which matters of art are dealt by the governing powers should cease, and we trust that for once the subject may be looked upon in an enlightened spirit; that money will be freely granted for the work of restoration, and at once; and that we shall not have to recur to the still crumbling ruins of the once beautiful Chapter House of Westminster Abbey.

## THE ORDINANCE SURVEY.

WE lately took occasion to remark upon the importance to the country of its possessing an accurate reflex, on paper, of the peculiar geographical and topographical characteristics which distinguish it. It is unnecessary to urge this point further, because all who pay any attention whatever to the subject, cannot fail to admit the position we have assumed for the Ordnance Survey. The only point upon which difference of opinion may legitimately exist in reference to the subject, seems to us to be the scales to which the maps resulting from the Survey should be drawn. This point has, indeed, been discussed by Commissioners and Committees, until the question, instead of being solved, has become more complex. The Select Committee of the House of Commons, appointed on the 3rd of March last, to enquire into the expediency of extending the Cadastre Survey to those portions of the United Kingdom which had previously been surveyed upon the scale of one inch to the mile only, have now reported in favour of that extension, and it remains for the House of Commons to give effect to, or reject the Committee's report.

In support of the view which the Committee of 1862 enunciate, they state that the advantages of a cadastral map in transactions affecting land, as between landlord and tenant, are self-evident. A cadastral Survey, while it provides facilities for the transfer of land from one proprietor to another, also describes the acreage of every inclosure. It provides for recording on the plans all improvements which the tenant may make, and for which he may claim remuneration on leaving his farm. It indicates the levels also which are necessary for the improvement of the land by drainage, and it can be used for marking the exact positions of the drains. The aggregate of farms depicted on the cadastral map makes up the whole county, and the advantages, therefore, are not only local, but national. The question of the improvement of the productive power of the land affects the whole community. And experience tells us that, whether it be the improvement of lands already under imperfect cultivation, or for the reclaiming of waste lands, or the reclaiming of land from the sea, the first demand is an accurate map with levels, on which all the work contemplated to be made can be distinctly and clearly laid out.

The advantages which the cadastral plan affords to those who are carrying on engineering works, such as fortifications, hydrographical surveys, geological surveys, railway surveys, and drainage, are not less important than those which it affords to the transfer and management of lands.

The Committee summoned, in support of their statements in regard to these last-named considerations, several eminent witnesses, dead as well as living. The Duke of Wellington has expressed himself strongly on the advantages which would accrue, in a military point of view, from the publication of large-sized plans of the country. He pronounced the scale of six inches to the mile, to be the smallest size which would give really useful information to military engineers. Surveys for military purposes are, in fact, frequently required, and more especially now that public attention has been turned to the subject of the defences of our dock-yards, and other public works. The National Defence Commission has lately ordered a considerable number of surveys for the use of that Commission. These have all been conducted on the scale of a fap and are so made, that if Parliament should decide to proceed with the general survey of England on the same scale, they will square with that general survey. They are based on the same triangulation, and carried out in the same careful way that the cadastral Survey would require.

As regards hydrographical surveys, the very strongest testimony has been given by many distinguished officers of the navy in favour of the large scale, or cadastral plan. These officers are unanimous in expressing first the great value of the Ordnance Maps to the coast survey. Secondly, that the maps on the 6-inch scale, from their ample and clear details, furnish the surveyor, almost at a glance, with a general knowledge of the configuration and features of the coast, the high and low water-line, &c. Thirdly, they supply such minute and accurate data, that the surveyor in his off-shore soundings is often enabled to make use of some mill, house, or other conspicuous object on the shore, and thus to fix his position; the map being his infallible guide, although the trigonometric points are covered by clouds, or obscured by mists. Many other reasons are adduced in the same quarter by the naval officers referred to, and they are supported unreservedly by Mr. Washington, the Government hydrographer. Sir Roderick L. Murchison bears testimony to the value of maps on a large scale in the Geological survey. He asserts that Professor Ramsay and his assistants, who have been engaged in a geological survey of Haddingtonshire, had found that the 6-inch maps with contours had afforded them great facilities for the more exact completion of their work.

Touching coast cliffs, or rocky shores, which so often give the geologist a key to the real framework of the adjacent inland tracts, all the physical features are so minutely laid down that every curve or

break in the strata can be accurately noted on a 6-inch map. In the interior of such a country, provided with a cadastral map, it is plain that the geologist may insert on it in writing all descriptive lithological details pertaining to every stone, quarry, or natural feature. If he happen to be working in a track of coal or iron, he may in the same way delineate the precise outcrops of the respective beds or bands of these minerals, and insert also on the map much valuable local information. Sir Henry James states, that there are about 13,000 miles of railway in the United Kingdom, the surveys for which cost not less than £250,000, and had a National Survey existed prior to their formation, at least £200,000 of this would have been saved.

In this opinion Sir Henry is strongly fortified by the evidence of the late distinguished engineer, Mr. Locke, who spoke frequently of the great saving which would be effected by the possession of an accurate government map. This would, he said, enable an engineer to get a good idea of the country to be traversed at once, and without trusting to personal observation. Sir John McNeill has expressed similar opinions. The 6-inch scale, he said, "enabled you to lay out the lines on the maps for either railways, canals, or harbours, for the purpose of lodging in the different offices, and also in the offices of the works, the persons on the scale required by the standing orders." Sir John added, that he had actually laid out by the Ordnance Maps more than 2,000 miles of railway, and that experience led him to give a most decided preference to those on the 6-inch scale. He believes that the saving of expense to the parties who employed him on these occasions by using the Ordnance Maps was not less than £10,000.

In the matter of drainage, too, equally satisfactory testimony has been adduced before Commissioners or Committees, and there can be little doubt, we are sure, in the minds of our readers as to the advantage of cadastral maps over those on a small scale. We would scarcely advocate of uniformly large scale for towns, parishes, and counties, however; it might be considered whether in those cases different scales might not be adopted.

Most of the states of Europe have government surveys on a large scale. In some countries these are treated as military maps, and in others portions of the survey are sold at a low price to the public. Austria, Bavaria, Belgium, Denmark, France, Holland, Prussia, and Russia are surveyed in whole or in part, either on the scale of 25-344 inches to the mile, which gives one inch to each acre, or on that of 13,960 inches to a mile, excepting Denmark, which is surveyed partly on the scale of 15,840 inches, and Russia, which is partially surveyed on the scale of 74 to 36 inches. Besides, he has ordered a cadastral survey of 42,244 inches to the mile, whilst Wurtemberg has completed and published a survey to the scale of 60,088 inches to the mile.

Some of the countries referred to have undoubtedly carried matters to extremes; but with the experience already gained, and the clearly given opinions of practical and professional men, it seems certain that we cannot err in regard to the best mode of proceeding. The Committee which has just furnished its report to the House state, that they regard it "as a settled point, that for the purposes of this enquiry the term 'cadastral' means a survey on the scale of 25-344 of lineal measure of the ground, from which plans on that or any smaller scale can be drawn."

There is no doubt that the Committee did well in accepting this arrangement as a fixed point, for the scale in question offers many advantages in the primary survey, and many facilities for reduction afterwards to any scale which may be desired for particular localities.

During our recent visit to the Ordnance Survey Office, at Southampton, we were struck with the ingenious and yet simple means by which plans were reduced. Photography of course is enlisted by the operators in this case, and marvellously well does it perform its task. It does not err, as skilled labour of the most superior kind not unfrequently does, but gives instantaneous and truthful results. Some witnesses suggested to the Committee in question that the surveys should be made, but the results not published. They recommended that the original map should be deposited in some accessible place, and that persons desirous to obtain copies should be allowed to do so on payment of a certain fee. The Committee express their belief, nevertheless, and in that belief we heartily concur, that taking the average of the whole kingdom, a sufficient number of copies will be sold to defray the expenses of publication. In truth this idea seems to be justified by facts. When the manuscript plan of the ground is completed, the expense of preparing plans on the 25-inch and 6-inch scale respectively is as follows:—

One sheet on the 25-inch scale contains 900 acres, one sheet on the 6-inch scale, 16,500 acres; one sheet, therefore, on the 6-inch scale represents exactly the same area of ground as 16 sheets on the 25-inch scale. The cost of producing one sheet on the 25-inch scale is computed to be £4. The cost of producing one sheet on the 6-inch scale is sixteen times £4 — £64. In other words, the cost of production is the same on both scales for an equal area. The

25-inch plans are transferred to zinc or stone — zinc being principally, if not entirely, used at present, and the 6-inch plans are engraved on copper, after being reduced by photography. The difference of price between one sheet on the 25-inch scale, and one on the 6-inch scale, is owing to the greater amount of skilled labour expended on the copper-plate engraving, as compared with the zincographic process.

When once the Cadastral Survey is completed, revision would be needed, say, once in fourteen years. This would cost less than the rate of £10,000 per annum, an amount which it is fair to suppose would be covered by the profit on the sale of the maps.

It is difficult to imagine that any objection will be raised in the House of Commons to the carrying out in its entirety the Cadastral Survey of England. In every way it will be advantageous to have it made, and that speedily. There may have been room for two opinions amongst our representatives as to the propriety of transporting the Natural History Department of the British Museum to South Kensington, at a cost to the nation of £900,000 or £700,000, but there can scarcely be so upon the propriety of proceeding with the Ordnance Survey.

When completed, the Ordnance Maps will form a picture of the country, as far above the value of the renowned Domesday Book of William the Norman, as is the civilisation and scientific knowledge of the subjects of Queen Victoria above those of the subjects of the Conqueror. In short, it will be a work worthy the age and the nation.

#### ABRIDGEMENTS OF THE SPECIFICATIONS RELATING TO BRICKS AND TILES.

(PRINTED BY ORDER OF THE COMMISSIONERS OF PATENTS.)

THIS volume belongs to a series of similar collections of abstracts which the Commissioners of Patents have been publishing for some time back, and which now includes a considerable number of volumes, each on a distinct subject. It may be desirable to give some account of the circumstances which led to these publications, or, in other words, of the labours of the Commissioners during past years, before noticing the particular volume now under consideration.

Most of our readers are aware of the fact that, among the conditions necessary for obtaining Letters Patent to secure an invention, it is essential that a specification of the nature of the invention and the mode of putting it into operation shall be lodged in the Patent Office. This has been, more or less, the custom from near the time when the very first patents were granted, and as the specification, with its accompanying drawings, forms the basis upon which any supposed infringement of the invention is examined and disposed of in a court of law, it is clear that a comprehensive and accurate description of the nature of each invention must be embodied in each specification, in order to render the document available. To a great extent this is the case, and hence it can be easily understood that a body of valuable information has been gradually accumulating in the storehouse of patents; information valuable as embodying a history of discovery, invention, and art in this country, as containing descriptions of innumerable inventions the patents for which have expired, and which it is open to all the world to appropriate, and as showing to inventors in any particular branch the nature of all such inventions as have already received patents, so as to enable them, if intending to become patentees, to see whether or not their inventions have been forestalled.

The actual examination of these numerous and voluminous documents, entered numerically in books, and stored away in several very inappropriate receptacles, was, however, a matter virtually impossible without some guide or clue to them, and this clue was provided by the energy and perseverance of Mr. Bennett Woodcroft, now Superintendent of Specifications, &c., under the Commissioners, and formerly Professor of Mechanics at London University College. He prepared three catalogues, or indices to the specifications, arranged with the greatest care, patience, and skill, of which one was an alphabetical index, a second a subject-matter index, and the third a reference index, giving a reference to the passages in scientific periodicals in which each invention down to a certain date was described or elucidated.

This step, in itself of great importance, was followed by the introduction of the custom of printing all the specifications to the patents which were taken out, and engraving the accompanying drawings; and when this had been found to be appreciated by inventors and the public, it was decided to print the specifications of the earlier patents back to the very commencement. This has been in progress for a considerable number of years, and is either actually accomplished, or is on the eve of completion.

The specifications on any one subject, however, form a numerous and consequently a costly series; and, notwithstanding the facilities for

consulting the complete printed series at the library in the Patent Office, and the numerous free libraries, the establishment of which has been promoted by the Commissioners, it has been felt that in many cases inventors were not able fully to realise the advantages proposed for them; any entire series of patents being too costly for purchase, and the short descriptions in the indices not being sufficiently detailed to indicate what individual patents bear upon any one point. The happy idea was therefore conceived of publishing abstracts of the specifications in classified series, these abstracts leaving no essential point unnoticed, but conveying as briefly as possible such information as will give an exact idea of the scope of the specification itself, and of such of its details as form novel or distinctive features.

The preparation and publication of this series of abstracts is now going on, under the superintendence of Mr. Woodcroft, and the first series published was one which related to inventions of a nature to bear more or less directly on building operations, namely, those concerning drain tiles; this has been followed by various series on various important subjects, such for example as steam navigation, steam culture, fire-arms, &c., and lately by the volume before us, which is the second of those that more particularly concern the builder.

Bricks and tiles seem simple in their nature, their materials, and their manufacture, and yet we find that, up to the end of the year 1800, there had been somewhat more than 500 patents taken out for inventions of which they were the subject. Of these inventions, some relate to new materials; others to new shapes, forms, or sizes; others to methods of tempering the raw materials, or drying and burning the manufactured articles; and others, there being the most numerous of all, to various inventions for the manufacture of bricks and tiles by machinery. The book, like all the other series of abstracts, will be almost indispensable to inventors of bricks or brick machinery; it will also be very useful to manufacturers, and even to architects and builders, as showing them what methods of manufacture have been tried, and what forms, patterns, sizes, and qualities of bricks have been devised. It is hardly, perhaps, necessary to add, that the series will not do more than this, it is not intended to guide its readers to a discrimination between those patents which have proved to be of practical value, and those which are not at present being worked; in fact, it would be almost impossible to procure such information complete, and unfair to pretend to give it, except in a complete form.

We may add, that to those specifications which, arranged in chronological order, form something like a history of bricks and brick-making in this country, from the year 1010 to the present day, there is prefixed a brief but comprehensive introduction, carrying the reader back to the earliest known accounts of the manufacture and use of bricks and tiles, and tracing the history of their employment, and of the modifications which they have received from that time downwards; by this introduction our readers have had an opportunity of judging for themselves in another part of our columns.

It is to be hoped that this series will be speedily followed by others connected with building, such, for instance, as inventions connected with mortars and cements, heating and ventilation, and new materials and contrivances of various descriptions; and in fact, some such promise is held out by Mr. Woodcroft in his preface, in which he says:—"A limited number of the present Abridgements relate to improvements in building contrivances or materials which will form the subjects of distinct series; they were, however, necessarily included here, because some portion of them refer to bricks or tiles."

#### INTERNATIONAL EXHIBITION.

THE PICTURE GALLERIES.

HAVING mentioned in the previous number several pictures contributed by the foreign schools to which we can produce no equals in the same style of art, we will now proceed to select from the works of the English school such pictures as we think cannot be equalled by those from the continent. First among the fathers of British art, stands Hogarth—not only original in choice of subjects as a painter, but in truth the first openly declared foe to vice amongst us; also the first who devoted his talents to mitigate cruelty inflicted upon animals. His works upon those subjects have ever been approached either at home or abroad. His imitators in England were few, and merely resembled him near enough to make his merits by the comparison more conspicuous. Collett was perhaps the most successful of them, but his attempts show more the ambition to be a painter, than the possession of the pictorial gift so indispensable to make one a gift which was so remarkably manifested in Hogarth. Like all self-taught artists, he entertained strong opinions upon the art he had acquired. He published those opinions in his well-known book entitled "The Analysis of Beauty," and such were his cultural abilities, and so practical was the manner in which he employed them, that after the first part of his book had been revised by a literary friend, Hogarth had



watched the operation so closely, and had applied all that he learned from it so cleverly, that when the manuscript of the second part was submitted to the same friend, he found scarcely a word to change, or a sentence to alter. It was no doubt the application of his common sense to the treatment of his subjects, that induced him to adopt a low tone of colour in his pictures, where expression and character were his principal intention; and that that practice, we may see in this Exhibition, by looking at the small interior and domestic subjects by Maclou, of Belgium, and those by Bos, the *genre* painter of Holland. For this apparent want of coloring, Hogarth has been censured by English critics; but if he has sinned in that respect, it has been committed in most excellent company; for many others have adopted the same method of colouring, besides those we have mentioned. It is hardly possible to make a choice of his subjects, and especially so in the systematic manner in which he attempted to reform the morals and check the cruelties of his own time. Generally excellent as the light is in the large rooms of these galleries, it is to be regretted that his pictures could not have been better placed. Most of them are hung too low, and nearly all are hidden in a comparatively dark corner of the room.

The real founder, however, of the school of British art was indubitably Sir Joshua Reynolds; and although there have been portrait painters in all countries, we think from no part of the world can pictures equal to his be seen, and in which the same grace, delicacy of expression, and elegant arrangement can be found; but the superiority possessed by Reynolds over all other painters, of portrait painters in this—Bos, seizing the character and expression of his sitter, so that all who knew him should recognise the likeness at the first glance, he at the same time produced a picture that all the world could admire as a work of art, without their ever wishing to know for whom the portrait was intended. It is in this that Sir Joshua is unrivalled by any work in the present Exhibition or elsewhere. Gainsborough stands fourth both as a landscape and a portrait painter. The celebrated "Blue Boy" bids a bold defiance to all comers. It is an interesting fact that this, the finest picture of the kind ever painted, should be the result of antagonism to a rival and a perversion of one of his rules. In short, a mistake. Sir Joshua, in one of his celebrated "Discourses," laid it down that "blue be made the key colour, giving the general effect most necessarily be cold. When he wrote that, he had in his mind a composition consisting of several figures, in which, if the principal figure were a blue dress, that colour, to connect him or her with the rest of the subject, must reappear in various parts of the subject; not only so, but if the blue, being a cold colour, were to be maintained as the key colour, all the warm tints must be subdued, and the picture would not be an undue perversion of cold colour and of warm colour toned down to agree with it; and therefore, in comparison with other pictures painted on a different principle, a cold effect would be the consequence. Gainsborough, disliking Sir Joshua too much, and being too eager to prove him wrong, without inquiring into the true meaning of the rule, painted a picture of one figure, not several, and dressed in blue satin, and did not contemplate by Sir Joshua—surrounded by low-toned warm colour, as a contrast, not an accordance relieved the whole with deep greys, which, with the sudden and dark shadows of the satin, and its equally sudden and bright lights, produced an effect, not of extended harmony, but of a brilliant and dazzling piece of chiaroscuro, in which the blue was considered as the local colour, rather than as the key to the whole. If, however, all the perversions of the rules established by Sir Joshua Reynolds had been attended with results so splendid and so honorable to English art, they could well claim the forgiveness that poor Gainsborough on his death-bed asked of the man he so opposed and misrepresented during the greater part of his life.

His attempt to render Sir Joshua ridiculous in this instance was as reasonable as if it were endeavoured to be proved that the plan of a general battle were absurd, by showing that a single individual could do under extraordinary and peculiar circumstances. Besides the "Blue Boy," "The Girl and Pig," and the "Girl going to the Spring," for rural poetry in feeling and treatment, we may find in the work of any former painter in the present Exhibition, or out of it, that can for a moment be compared with either of them, or with his lovely and famous picture known as "The Cottage Door."

Morland, who was nobody's enemy but his own, can also, in rustic sentiment and painter-like treatment, challenge any foreign competitor. He was unfortunately his own enemy, both in a moral and a worldly sense, and by the latter his fame as an artist has seriously suffered, for few know the delicacy of his style in early life, or the depth and power of his pencil during his meridian, and too many know only the slovenly and hasty smears and scrawls for bread in his latter days. The pictures by him in this Exhibition will no doubt redeem his fame, but he is not represented as he might have been. The "Last Day of Pompeii" is both in composition and uniformity of tone, and facile execution, which is so charming in him when it is not carried to excess. No painter ever excelled Morland in rendering the hoary character of wood scenery. No. 103 is an admirable example of this style of painting; the arrangement of the parts is also fine, and the general tone of the colouring will illustrate our remarks on his unity of effect, and the group of sheep under a glass that hangs near to it will show the delicacy and breadth with which Morland could paint in his best time.

The classical style of Wilson does not stand so distinctly apart from several foreign painters who could be mentioned, but in all his compositions of this kind it will be seen that he sustained the feeling throughout with both

lustre and power, and in his pictures of a less pretentious character, as the "River Dee" and the "Path of Fenn," in the present exhibition, his love of home and rural scenery is charmingly displayed. It is in this home feeling that English landscape painters excel those on the Continent. The latter, although they are excellent as works of art, and elevated rather above the reality into a kind of rural sentiment, seem to be painted by a stranger; they resemble the landscapes in England by Englishmen as an air of homesickness about them very congenial to the material mind of the Englishman. Thus the compositions by Wilson have not so many general admirers as his views at home taken from known localities, because we have no natural sympathy with them. It is the same with the pictures of "Old Cromer" now exhibited, while we admire the firmness and vigorous effect which they present, they remind the landscape painter of Holland, and produce the full impression of home to the Englishman. Wilson's "Mosses and Heath," although the subject is barren in subject, is more in accordance with our feelings, because it suggests nothing but the reality, and that reality evidently in England. There are, however, few foreign painters of out-door scenery can equal Cromer as a landscape painter. Of the pictures by Callcott we may well be proud, for, besides that congenial spirit which induces us to sympathize with them, they have a fine aspect of atmosphere, great unity and breadth of tone, besides being scientifically composed. We would direct attention particularly to a "Sea Piece," and "Shipping on the Thames." The pictures want clearing to show their true atmosphere. They are badly placed in the gallery for exaggerating their true appearance, in consequence of having the exhibition in the background. When open, and in the clear daylight to be seen, and rendered more brilliant by contrast with the dark and positive forms of the iron-work; and not only is the yellow varnish upon them increased in intensity, but the eye of the spectator is dazzled by the vividness of the daylight, and at such times it is quite impossible for these fine English pictures to be seen at all. Between the works of Wilson and Callcott is a charming little picture of a "Farm Yard," by a native artist little known, H. Walter; but for delicacy of feeling and appropriate sentiment in the treatment, few of the foreign painters of the same subjects can be brought into comparison with it. Bonington's "Venice," and his other pictures in the Exhibition, do credit to the English school. The paintings of Bonington, although too evidently founded on the old masters to be strictly native, still be his spirit, and his feeling may be obtained from foreign sources with so much judgement, taste, and skill, that he may be mentioned in connection with the leading artists of the British school; some of his pictures are very delightful for the purity of their atmosphere, and the spirit with which they are touched.

One of the original genius, besides having given the tone of French landscape painting, stands out clearly by himself, and his own compositions. Time has done him the justice which his contemporaries refused, when his pictures, fresh from the easel, appeared speckled all over with spots of light colour, which he said twenty years would tone down. Visitors may now see how the prediction of the painter has been verified. In "The Old Mill," the perfection of landscape painting of the most rural kind, "Salisbury Cathedral," "The Old Mill," by a native artist, "The Old Mill," and the "Opening of Waterloo Bridge" would require a lengthened description to make all its pictorial beauties intelligible to the uninitiated. It will be sufficient at present to direct attention to the manner in which the sentiment of the subject has been sustained throughout. It is a scene of joy and gaiety; in the foreground are state barges, with their gilded sides. On the platform above the cabin are crowds of people, surrounded by numerous banners waving and fluttering in the wind. It is worth while to examine and note the original method of producing that effect, with the appearance of motion given to the state barge and all it contains, as if passing before the eye. Neither Backhuysen nor Vandercolde ever thought of making the attempt which Constable has carried out so successfully. Every part of the scene is in motion. The water is broken into little dancing wavelets by the craft in the foreground, the sun gleams out through the somewhat showery-looking clouds, and the signal gun from the bridge in the distance sends forth its wreath of white smoke, which, while it is suggestive of the subject, forms the central and key spot of the whole composition, which, when viewed as a whole, presents an air of elegant and brilliant, that it may safely defy foreign competition. In the "Centopast at Cole-Orton, in Memory of Sir Joshua Reynolds," Constable has put forth all the solemn and quiet graces of his pencil, and has, if possible, exceeded the powers of the marble, by the refined feeling in which he has treated it, paying homage to the talents of the father of English art, and the first President of the Royal Academy.

We have not yet exhausted the list of English painters who can be advantageously compared with those of the Continent.

WINCHESTER.—It has long been doubted that Worcester was a Roman station, but a recent discovery in Copenhagen Street, has proved that it was. Remains of an ancient roadway, the base of a column, standing about 7½ ft. from the corner, have been found in digging the foundations for the new Police-Station, at the east side, eight or nine feet from the frontage of the present street, seven feet below the surface. The bases of the columns are of sandstone; the columns have been broken off. They were of red workmanship, but their Roman type was unmistakable.

MANNY HALL.—We are informed that Manny Hall, one of the seats of the Earl of Yarborough, after a careful inspection by an architect, is doomed to demolition. The house is somewhat inconvenient and very ancient, having stood the test of time for several hundred years.

## RESTORATION OF THE CHAPTER HOUSE OF WESTMINSTER ABBEY.

ON Saturday last, a meeting of noblemen and gentlemen, convened by the Very Rev. the Dean of Westminster, Dr. TRENCH, was held in the Chapter House of Westminster Abbey, to take into consideration the steps desirable to call public attention to the ruinous condition of that beautiful building, with a view to its restoration.

The meeting, although a preliminary one, was very numerously attended, and amongst the noblemen and gentlemen present we noticed: Lord Ashburton, Lord Stratford de Redcliffe, Lord Taunton, Lord Talbot de Malahide, the Bishop of Oxford, the Bishop of St. Andrew's, the Bishop of St. David's, the Dean of Westminster, the Dean of York, Sir William Heathcote, Bart., Sir David Dundas, M.P., Mr. Baillie Cochrane, M.P., Mr. Tite, M.P., Vice-Chancellor Sir William Page Wood, Mr. Hubbard, M.P., Mr. George Gladstone, Mr. James Ferguson, Mr. Joseph Clarke, Mr. Joseph Godwin, Mr. Charles Forster, Mr. Haywood, Rev. Thomas Hage, M.P., Mr. J. Lomar, Mr. T. Hayter Lewis, Mr. E. M. Barry, Mr. Bensford Hope, Rev. Mackenzie Wallace, Mr. Arthur Aschapel, Mr. James Bell, Mr. Henry W. Saxe, Mr. Bailey, Mr. J. H. Parker, Mr. Ackroyd, Mr. G. A. Sala, Rev. W. Scott, Rev. Benjamin Webb, Mr. Henry Reeve, Mr. Cooke, Mr. Knight Wilson, Mr. R. T. Cox, Mr. D. Cox, Mr. Martin Sharp, Mr. George Richmond, Mr. S. Tillet, Mr. D. Dawnt, Mr. Dyer, &c.

On the motion of the Dean of Westminster, Lord ASHBURTON was called to the chair.

The CHAIRMAN, before opening the proceedings of the meeting, mentioned that he held in his hand a letter from the Duke of Buccleuch, high steward of Westminster, regretting exceedingly that he was not able to attend on the present occasion, and stating that he was anxious to be present on any proceedings likely to promote the object of the meeting. They had all reason to thank the Dean of Westminster for having called them together on that occasion; his pious zeal for the great monument left in his charge had extended to the Chapter House, which had for some centuries been withdrawn from the superintendence of the Church. They all of them knew that the Chapter House was built in the best time of Norman architecture, that it was at a period when religion and civil government were more strictly united than now, taken by the crown for the meeting of the Houses of Parliament. It remained in that destination until the time of Edward VI.; it was then used as a Record Office, and it had gradually become defaced, as they now saw it was. It had been pronounced by Mr. Brouncker as unsuitable to hold papers of value, owing to its liability to fire, and the question arose, to what purpose could it be applied, and whether it was to be a rubbish heap, or reserved to its former beauty as a gem amidst the glorious monuments which either the piety of former ages, or the revival of art in our own day, had grouped about that spot. If they lived in France, they would only have to apply to some gentleman having influence at the Court, and then probably the Emperor would order, as he did in the case of the Chapelle at Paris, the building to be completely restored. But they happened to live under a constitutional government, and a constitutional government has other modes of procedure. The Queen was almost powerless as to carrying out the object in view; the Government was almost powerless, for, to obtain funds, a proposition would have to be made by the Chancellor of the Exchequer or the Prime Minister to the House of Commons. It would, therefore, seem the most desirable thing to appeal to public opinion, and should the Government propose a measure for the restoration of the ancient building, they would then probably have a full and ready support from all the members of the House. Meanwhile, they might take another course, and it was for the meeting in its wisdom to decide what that course should be. The noble Lord continued by calling on Mr. Scott to put the meeting in possession of the position of the building, and of the state of the various parts, which would enable him as he thought, to restore this monument exactly as it was in ancient times.

Mr. GEORGE GILBERT SCOTT said, he had no doubt the great majority of the gentlemen present were gentlemen who had given a certain amount of attention, and many of them a great deal of attention, to the subject of mediæval art. To them, therefore, it would be no matter of surprise to be told what the Chapter House in which they were assembled once was. But if there were any present who had not made themselves cognisant with architecture and antiquarian matters, he thought it would be a matter of surprise to be informed, that the miserable place in which they were assembled, which appeared to be like something between a dissenting chapel and a warehouse, had been, and might be again, one of the most beautiful specimens of mediæval art. Every part, except the central column, was so hidden by the barbarous innovations which had been introduced, that no one could imagine the building was once one of so interesting and beautiful a character. The Abbey, which was built, not founded, by King Edward the Confessor, was commenced to be rebuilt by Henry III. in 1245, which was just the period when the earliest variety of pointed architecture was merging into the second or more mature form it passed through. Therefore, the whole of the Abbey was a noble work of art, but the Chapter House, one of the most valuable historical specimens, for this reason, that the style in which it was built was supposed to have been imported from France, but upon that point there was a controversy. Through the aid of Mr. Burt, he had got to know that the building was erected, or rather finished, in 1253, exactly the same date as that of French buildings of a similar character, which showed that we were not behind the French in buildings of that description. In 1253 it was almost the first of the finer specimens of octagonal

chapter houses; that at Lincoln preceded it by half a century, but it was not so fine in all its development. That at Salisbury was later, and the Chapter House of Westminster stood the first both in date and beauty. It was 100 feet in diameter, the same as that at Lincoln, and it was established on the strictest system of mathematical proportions. He had spent several months in tracing out the original design, and he thought that, with the assistance of Mr. Burt, he had found guides and vestiges remaining, which would render it possible to restore every portion of the building with perfect certainty. (Hear, hear.) The roof had been of polished Parakeet marble, and the floor happily remained absolutely perfect, and he was one of the first specimens of a mediæval floor remaining; in and in fact, he did not think there was anything equal to it. As to the question of the stability of the building, the groining was taken down to the pier of Sir Christopher Wren, because of its unsafe state, which led to a pier giving way on the western angle, and there was no doubt it was on account of the groining giving way. It was probable, therefore, that in the restoration of the Chapter House it would be requisite to restore the pier referred to. There was no doubt whatever, that the building which had been made perfectly capable of carrying the weight of the vaulting. Externally the case was very different from that of the interior, but happily not so very different as at first might be imagined. Till they got to the parapet and the pinnacles, they could recover the original design. The whole of the exterior of the parapet and pinnacles, the construction of which could be guessed at, as much as possible, by reference to contemporaneous works. He then went into another question, how far the decayed mouldings in the interior ought to be renewed. And his opinion was, that where they were not so far decayed as to destroy their design, they should not be renewed, but have applied to them a hardening solution, carefully passing by degrees to renew their natural state, and that wherever the original design existed it should not be interfered with beyond the application of a hardening process. He could give his strongest possible opinion that when properly restored, the Chapter House of Westminster Abbey would be one of the most interesting and exquisitely beautiful buildings this country possessed.

Lord STRATFORD DE REDCLIFFE said, the object of the meeting had been well explained to them by the noble President, and their statement which had been made by the illustrious architect, Mr. Scott, was such as to lead every one to see the importance of the building in which they were then assembled, and he was sure they were all happy to hear of the facilities afforded for its being restored to its original state. Of course there must be great diffidence in carrying it strictly into execution, but if he understood Mr. Scott properly, the main principle, that wherever the original design of complete restoration without any great trouble. That being the case, and addition that might be required from the long lapse of time, was comparatively of little importance, and the interest which attached to such a building as the Chapter House of Westminster Abbey could not be overlooked by any gentleman. We owed to those who had gone before us, to neglect no opportunity of preserving and restoring the works which they had left us. There were circumstances connected with the building in which they were assembled, which commended it to their careful consideration. The high style of architecture of the building showed the object for which it was constructed, and when they remembered the power of the clergy at the time of its construction, they might well imagine the important discussions which frequently took place in the Chapter House. And then the building had been the House of Parliament, and no doubt, and even according to tradition, the voice of eloquence and of patriotism were frequently raised in that room, even to the interruption of the religious services in the neighbouring cathedral. He had to move the first resolution:—"That this meeting views with regret the ruinous condition of a building so interesting, both as a historical monument, and for its original architectural beauties, as the Chapter House of Westminster."

Mr. BAILLIE COCHRANE, M.P., in seconding the resolution said, he trusted the object of the meeting would be a successful one. The resolution stated that the ruinous condition of the Chapter House was to be regretted, but he thought it ought to have gone further, and said that they looked upon the condition of the building with shame. He thought it was a disgrace to the country that our public monuments should be left in the state they were in. They often heard the severe criticisms of foreigners on the state of our public buildings, and he did not think their criticisms were too severe. A building like the Chapter House in which they were assembled was a national one, and though situated in the metropolis, the whole of the country had an interest in it. As to the restoration of this monument, he could only say that they must go to Parliament for the money requisite (applause), and he was of opinion that if Parliament refused £20,000 for its restoration, it would be a disgrace to the country.

Mr. WILLIAM TITE, M.P., supported the resolution. He said nothing could give him greater pleasure or excite stronger emotions of gratitude in him, as an architect, than to be present at such a meeting, and he thought they were much indebted to the Dean of Westminster for his perseverance in the cause. The meeting held on the subject of the Chapter House, and individuals, but now they had a meeting consisting of large numbers of members of both Houses of Parliament, and of the literature of the day. He could not believe that in England, and with the great interest which the restoration of mediæval art had excited throughout the whole country, there could be any difficulty in obtaining funds requisite for the restoration of the Chapter House. It was a disgrace to the country that, living as they did in a city having a population of three millions, there should be a

building like the Chapter House of Westminster in so dilapidated a condition. He was not surprised at the criticisms of foreigners. As to obtaining funds from Parliament for effecting the proposed restoration, he was not so sanguine as his honorable friend Mr. Baillie Cochrane. He trusted that the present meeting would lead to such results as they all desired and hoped to see effected.

The resolution was put from the chair and unanimously agreed to. Lord TAUNTON made a discourse to this country if it allowed a building so interesting and so full of historical recollections as the Chapter House of Westminster to go to decay, for it was one of the most interesting monuments we possessed. He thought, from the very satisfactory and interesting speech of Mr. Scott, they might hope there was really no practical difficulty in carrying the proposed restoration into effect. It appeared that the country was not so much in want of money as it was financially difficult; and he owned that he was not so sanguine as Mr. Baillie Cochrane, that the Government or the Legislature would find the requisite money. However, whether that was so or not, he was convinced that the object they had in view was so right and just in itself, it would be successfully achieved. The present was not a very favorable time for a public subscription, but he was satisfied that at no very distant period of time, an object so just and so reasonable in itself would command itself to the public spirit and good sense of the country, and that they should be able to command those funds that were requisite for the purpose. He should like Mr. Scott to state what would be the probable cost of putting the building in a proper state of repair. Looking at how much beauty, how much proportion, and how much interest attached to the building, it would be a wonder if the country would allow it to fall into decay. He did not have the pleasure of seeing the chapter house of Salisbury restored by private subscriptions, he believed. Surely a similar procedure could take place at Westminster, and it would be a great scandal to them if they did not provide the means of putting the Chapter House into a proper condition. His Lordship moved, "That this meeting is impressed with the desirableness of bringing the question of the restoration of the Chapter House at Westminster under the attention of Her Majesty's Government, as well as of Parliament, and the public generally."

Mr. DASENT seconded the motion, and in so doing said, he thought it would be unsafe to depend upon Government or Parliament for funds, but there was another source to which they might direct their attention, and that was the Ecclesiastical Commission. (House of laughter.) Well, he should insist, that if possible some sum from that body should be obtained. But supposing all other sources failed, they must fall back on the public generally, and he could not doubt that if this matter was properly brought before the public, there would be no difficulty in raising the requisite amount. Of course it was desirable that the public should have information as to the sum which would be requisite for the restoration.

Mr. GEORGE GILBERT SCOTT said he estimated the cost at about £20,000.

Mr. DASENT said he did not think the public would hesitate to raise the sum of £20,000, without calling upon the Government, the Parliament, or the Ecclesiastical Commissioners for aid. He had great pleasure in seconding the resolution, and had no doubt that from the public alone the requisite money would be obtained.

The Right Hon. the Honorable or OXFORD supported the resolution. He said he understood the object of the meeting was, as it were, to feel the pulse of the public, and to ascertain whether they considered their object worthy of an effort for its accomplishment. It had been suggested that an application should be made to that "nihil crew," the Ecclesiastical Commissioners; but as the ownership of the Chapter House rested with the Government, its restoration could not come within the provisions of the Act under which the Ecclesiastical Commissioners were constituted, looking to the fact that the Chapter House had become the property of the nation, and that so much had been done for the new Houses of Parliament—knowing also the determination to link the present with the past—he thought they had a claim, or, at all events, that something ought to be done, for the preservation and restoration of what was in fact the House of Commons in the early Times of the country. The most likely way to succeed was to let it be seen that a large amount of public interest was manifested in the form of voluntary contributions. They might then call upon Parliament for a vote in aid. At the same time he admitted they had no prescriptive claim upon that assembly, and that if it made any grant it would be an act of grace.

Mr. HUMPHAN, M.P., thought the resolution was not sufficiently precise in its terms, and thought that the public ought to know clearly the sources from which the money was desired to come. After a short discussion it was agreed to that the words "Parliament and the public generally" should be omitted from the resolution.

The resolution in the amended form was passed unanimously, it being understood, however, that the promoters of the meeting would be at liberty at any future period to propose such independent measures as to soliciting public aid as they might deem expedient.

Mr. A. J. B. HANSON-HORN moved the appointment of a Committee to nominate a deputation to wait upon the Chancellor of the Exchequer, for the purpose of presenting a memorial to the Lords of the Treasury, and taking such other steps as were calculated to promote the objects of the meeting.

Mr. GEORGE AINSWORTH SALA seconded the motion. Mr. HANNA supported the motion, which was put from the chair and unanimously agreed to. The following were appointed the Committee:—The Duke of Devonshire, Lord Ashburton, Lord Stratford de Redcliffe, Bishop of Oxford, Mr. Cockfield, Mr. Tite, Lord Taunton, Lord Stanhope, Mr. Darent, Mr. Hubbard, Mr.

Berford Hope, Mr. Sala, Mr. Revere, Mr. Monckton Milnes, Mr. Ackroyd, Mr. Cochrane, and the Dean of Westminster.

The following is a copy of the memorial to be presented to the Chancellor of the Exchequer, by a deputation from the Committee:—"To the Lords Commissioners of Her Majesty's Treasury: The Memorial of the undersigned sheweth that the undersigned residents in and visitors to London view with great regret and indignation the ruinous condition of the Chapter House of Westminster Abbey, a building which has been for many centuries in the occupation of the Government, and which is alike valuable for its architectural beauty, and for the historical interest attaching to it as the political place of meeting of the House of Commons during the Plantagenet and early Tudor dynasties. That your memorialists would further represent to your Lordships, that the grievous injury which is being done to the building, and the ruinous state it is in, is the result of the neglect of the Government, and that the Government is in the possession of the building, and that the records which it formerly contained have now been removed to the head Record Office, while the Chapter House itself has been declared by competent authority to be unfit for the custody of papers from the risk of fire which it presents. Your memorialists, therefore, venture respectfully to suggest, that advantage should be taken of the present occasion to forbid the use of the Chapter House for objects for which it is peculiarly unfit, and to prepare the way for its future restoration. The mere removal of the incongruous fittings with which the building has been crowded would bring to light many of its ancient and ornamental features. Your memorialists further venture to suggest that the restoration of a historical memorial of so much beauty and importance, is an object for which your Lordships might well, in the exercise of your discretion, invite the liberality of Parliament. The memorial was signed by most of the noblemen and gentlemen present, and now lies for signature at Messrs. Vacher's, 29 Parliament Street; Messrs. Colnaghi's, 13 Pall Mall E., and Mr. John Henry Parker's, 377 Strand.

Lord TALBOT DE MALAHIDE, in moving a vote of thanks to the noble Chairman, expressed his opinion that, in point of justice and of right, they had a very strong claim on the Government to be at the expense of restoring the Chapter House.

Mr. ACKROYD seconded the motion, which was carried by acclamation. The CHAIRMAN briefly acknowledged the compliment, and the meeting separated.

#### ARCHITECTURAL ASSOCIATION.—MR. R. P. SPIERS ON ARCHITECTURE IN NORMANDY.

AN ordinary general meeting of the Architectural Association was held at the rooms, 9 Conduit Street, Regent Street, on Friday evening; Mr. THOMAS HANSELL, vice-president, in the chair.

The minutes of proceedings at the last meeting were read by the hon. sec. Mr. J. C. ADAMS, and confirmed.

Mr. HENDER—Mr. Henry Louis Florence, 30 Brixton Place, Brixton Road, having been balloted for, was duly elected a member of the Association.

Nomination.—Mr. R. H. Burden, 3 Brewer's Street, was proposed for membership, and will be balloted for at the next meeting.

#### ARCHITECTURE IN NORMANDY.

Mr. G. R. New being unavoidably prevented from addressing the meeting on the subject of "Roofs," which he had intended doing this evening, Mr. R. PIERRE SPIERS, M.I.B.A., delivered a lecture, which he described as "A Sketching Tour through Normandy," during the month of October 1861. The lecture was illustrated by a great number of drawings, engravings, and lithographs. The lecturer commenced by referring to a visit to the cathedral of Rheims, and one of the things which struck him there was that the side aisles had no chapels, and he was told that that feature prevailed throughout Champagne. Those chapels had, he believed, nearly always been added to the cathedrals in the fourteenth century, as at Notre Dame at Paris and Amiens. There was, therefore, less effect in Rheims cathedral, as regarded extent and size, than in the other two mentioned, but the deep shadows thrown by strong light beams from the windows, and the high and narrow windows, and the fine tracery of the tracery, and the small passage about 24 yards from the ground, which passed round the whole church, there being small doorways cut through the piers. There was a range of three stone seats in each of the side aisles. In the Rue de Tambourg was a very singular building, known as the house of the musician, of which the first story only exists as originally built. Between and on each side of the main entrance of the church, there were statues, and on each side of the statues sculptured figures playing different instruments. The figures are seated, and their seats supported by Gothic corbels. The cornice is also very good. The Hotel de Ville is in the time of Louis XIII.—XV., seventeenth century renaissance, but has been scraped and restored since. It is a stone building, ornamented with pilasters and brick, of very good proportions, and with a great deal of character about it. Not far from the station stands an old house, which was a very bad state of preservation, which was a very curious monument, such relics not being found, generally speaking, so far north. Thirty yards north of this arch has lately been discovered an old Roman mosaic pavement, nearly perfect, and extremely beautiful, as it seems to have retained its colours in all their primitive force and beauty. It measures about 27 ft. by 31 ft., and is at present covered by a shed; but it is said to be in a very good state of preservation. The church of St. Remi is a very interesting, owing to the different periods at which it has been restored and added to. Its erection was commenced in the eleventh century, on foundations of a still more

ancient date. The choir was added at the end of the twelfth or beginning of the thirteenth century, and bears a remarkable resemblance to the choir of Notre Dame at Paris. The side aisles were originally vaulted with the circular arch rib-vaulting, but this was removed in the thirteenth century, and pointed ribs placed; raising the gallery, which takes the place of the triforium, about two feet. In the same century small columns to carry a vault were introduced in the nave, and flying buttresses were placed on the outside, abutting upon and partially hiding Norman capitals, added in the twelfth century. A hospital blocks up the aisle windows of the north side. The southern transept is of the fifteenth century. The choir contains a very beautiful tomb of St. Louis; and a most beautiful marble screen, in Italian renaissance, encloses the choir. St. Jacques is another very interesting church, containing a fine choir, added in the thirteenth century, and the sixteenth, and restored in the nineteenth century. The lecturer proceeded to state that he was obliged to return to Paris on leaving Rheims, there being no railway across to Mantes, the first town he wished to visit before going to Rouen. The church of Notre Dame, Mantes, was built towards the end of the thirteenth century; the entrances are earlier, at least the centre one and that on the left, the other being of the fifteenth century. The triforium resembles that of Notre Dame at Paris, with its wide gallery round. This produces a strange effect outside, especially on the north, because, there being no side chapel, the side aisles mount up twice the general height. The upper part of the circular window in the facade is elliptical, probably on account of the interior vaulting. Round the tower and across the front of the church is a covered gallery, which has a double row of two columns on each side, and a small aisle in the inner wall. One of the towers, and the gallery across the facade, are additions by the present architect, M. Durand. There was another old tower in the town, of which the church does not exist. It is extremely picturesque, and of the sixteenth century; the style being renaissance in detail, but Gothic in general treatment. The lecturer said he scarcely ever describes Rouen, which was one of the most glorious and rich he had ever seen. With the exception of the church of St. Owen, it was perhaps much more interesting to artists than to architects; it was full of and contained perhaps the finest reminiscences of the last period of French Gothic—the Flamboyant. Greater delicacy of carving, greater richness of imagination, greater fancy and poetry in the extravagant exuberance of the detail of this debased but most beautiful style did not exist, and yet all this was rapidly going to ruin. He was glad to see, however, the French Government were preserving some of the old towers, and hoped that they would not take into their heads the idea of restoring them. Mr. Spence said the cathedral has a very gorgeous facade of the fifteenth century unfinished, and it is flanked on either side by two towers, which he believed belonged to two churches previously existing, and probably of the twelfth or thirteenth century. He thought the church was a fine specimen of French Gothic, and a fine forum, that is to say, the side aisles mount above the triforium, which opens out on them. There is a passage along it, carried round the piers of the arches on small columns supported by corbels. The chapel of the Virgin at the end of the church, contains some very beautiful tombs, particularly one of the Cardinal of Amboise, of the sixteenth century; and the sculpture was beautiful and delicate, and of great richness. The church of St. Owen was a fine specimen of Gothic; certainly the purity of its architectural lines was wonderful, but the structure was cold—the work of a mathematical, rather than of a poetical architect. The choir is surrounded by a very beautiful ironwork screen of the seventeenth century, which, strange to say, is so beautiful, that, though of a different style, it does not at all jar the feeling at its being seen in a Gothic church. The church of St. Jean began in the thirteenth century, and was finished in the fifteenth. There were about thirty-seven churches in Rouen, of which only fourteen were used for religious services; the others being either in ruin or used as stores. Two of the latter have only the towers remaining, the other parts, which were falling, having been pulled down. He believed they were going to plant gardens around them, as at St. Jacques in Paris. After remarking that there were in the town under the same roof, the Norman and the French wooden houses, the lecturer said the Hotel de Boulogneville, which had been copied at Sydenham for the Renaissance Court, was a very beautiful specimen of the renaissance. The Palais de Justice, of the fifteenth century, and in the Flamboyant style, was one of the finest buildings in the town; and resembles the town-halls of Belgium, than those of France, generally speaking. The ceiling of the large justice-room was original and rich, though much could not be said about its construction, and it was rather complicated. The church of Notre Dame de bon Secours was well worth a visit, as the whole of the interior was coloured; and being situated on a hill, it commanded a fine view of Rouen. The church of St. George de Booserville, about six miles from Rouen, was a very interesting structure, and formerly belonged to an abbey built in the eleventh century. The church is vaulted, has side aisles, and a thirteenth century tower and spire. The ruins of a cloister of the same period exist on the north side of it. The greatest treasure was the Chapter House, an oblong building in the transition style, vaulted, square end, and with three pointed windows having zigzag ornaments. The facade has three circular-headed openings, the centre one a doorway, of which the architraves are ornamented with an extremely beautiful Byzantine, or perhaps even Moorish decoration. The choir of this church is very interesting. Candebec was a beautiful town situated on a bend of the river Seine, and the scenery round about most lovely; and, in fact, he could scarcely recommend a more beautiful excursion than to proceed from Rouen to Havre by boat. There was a very fine church at Candebec of the fifteenth and sixteenth centuries, especially

interesting as showing the effect of the introduction of Italian architecture on the flamboyant, and the mixture of the two styles. The tower of this church is more beautiful perhaps than those to be found at Rouen. The chapel behind the choir has an ugly, shapeless pediment, but the organ loft is very well arranged. The ruins of St. Wandrille, near Candebec, are very picturesque, and present the relics of a very beautiful fourteenth century church of considerable size. There exists at present a portion of the transept, and the walls of the side aisle chapel. There is a large seminary uninhabited by the side of the ruins. Havre, now that the fine old tower of Francis I. has been destroyed, has no particular interest, except a modern museum and Town-hall, both very good specimens of French architecture of the present day. There is also to be seen here a new Romanesque church by a lecturer, who said the lecture that he had just given was the last he lost from Havre to Caen, proceeding up the river Orne. The banks from its mouth up to Caen are bordered with rows of trees, and, from the moment a person entered it, he might fancy himself in the interior of a country, the trees growing up to the sea-side. As he intended to revisit Caen on his return from Cherbourg, he went on at once to Bayeux. "Bayeux," said the lecturer, "is a town where the civilisation of the last ten years seems to have little entered. The town there is only one new house in the whole town, and some slight alteration in the cathedral is all that occupies builders or architects there. All the houses, therefore, are of a certain age. The oldest seem to have been built in the sixteenth century, and though not rich in decoration, are well built in stone. The most remarkable have staircases in towers attached to the houses, and have at the top a chamber which is higher than the rest of the house, and at which one enters by a small staircase at a corner of it. The cathedral belongs to different epochs. The lower part of the nave and the towers are of the Norman period; and the three doors of the western facade are an addition of the fourteenth century. The most ancient part, the crypt, brings the visitor back to the eleventh century; and in it are to be found some beautiful capitals to the columns. The Norman record of the town belongs to a cathedral of the twelfth century, and in them, in the thirteenth century, were raised a lofty story without intermediate triforium. A matter worth note is that none of the Norman arches are exactly similar: some have the centre below the line of the abaci of the columns, and some above; their archivolts are not equal, and the intercolumniations are of different lengths. Camont remarks that 'this irregularity occurs often in Norman churches of a large size.' The choir is one of the finest types of the thirteenth century architecture, and the disposition of four pointed twin arches is rare. Camont puts forth his views as to the date of the tower, the mystery respecting which has been solved: for the year before I arrived, the piers being found to be in a bad condition, it was necessary to have them removed. The lantern at the top, of the seventeenth century, was taken down, and the triforium part underneath was raised up, and the tower was finished, and new piers added. In taking away the old ones, apparently of the fifteenth century, were found imbedded in the centre Norman piers, supporting Norman circular arches, decorated with zigzags, which must have belonged to the original cathedral of the twelfth century, the date being about 1106. The porch on the south side belongs to the fifteenth century; some of the chapels on the north were built in 1289, and others about 1306; but they were restored or rebuilt in the fifteenth century. The two facades of the transepts are later, the northern being of the fourteenth, and the southern of the fifteenth century. The chapter house, of the thirteenth century, has been restored in the fourteenth and fifteenth centuries. The old Erecché, or Bishop's Palace, now occupied by the tribunals of justice, has some interesting portions of the thirteenth century, one of them being a remnant of a porch which he now used as a retiring-room, and is judged to be of the twelfth century, and painted. The tapestry of the Queen Matilda, in the adjoining museum, is very interesting; but more as a historical subject than as a work of art. The greater part of the Church of St. Patrice is modern. The tower, however, which is a very fine one, dates from the year 1549; it is composed of seven stories, the four lower being square, the upper circular. There is a very interesting very interesting wooden house at Bayeux. The house of the governor is a fine specimen, one, in stone of the fifteenth century, the upper part being of the sixteenth or seventeenth century. The Church of St. Loup was originally a structure of the twelfth century, but the tower is the only portion of the building of that date which remains."

[We shall give the remainder of the lecture in next.]

The lecturer said he could speak of the great architectural interest attached to almost every place which had been mentioned by Mr. Spence. He advised tourists who went to Normandy to visit the Champagne country, and to go down to Chartres, where much that was interesting in architecture would be found.

A vote of thanks to Mr. Spence was carried by acclamation, closed the proceedings.

CORR. EXCHANGER. ST. NICHOLAS.—A meeting of the directors of this building has been held to inspect plans submitted by Mr. Bellamy, of Lincoln. The designs of the architect were much approved of by the directors, and an engagement entered into for carrying out the works. It is much to be regretted that there is a small opposition to an undertaking like this, which promises the accommodation and comfort so long needed by merchants and business attending the fair, and the town will not only be a small addition, but all purposes, but will also be an architectural ornament to the town. The houses now standing on the site are advertised for sale, to be taken down and cleared away.

## THE REREDOS, BEDMINSTER PARISH CHURCH.

OUR Engraving this week represents the Reredos of the Parish Church, of Bedminster. It is of Caen stone, and occupies the entire width of the chancel. The lower stage is a simple arcading, surmounted by a band of quatrefoils. Above are three large panels, surmounted by crocketed canopies, and sculptured with plastered representations of the Nativity, Crucifixion, and Ascension of our Lord. The first of these subjects, which is on the north side, represents the Virgin Mother kneeling in the stable at Bethlehem before her new born Son and Lord, S. Joseph by her side, and three shepherds coming in to pay their homage. Above the stable, which is conventionally treated, are angels, playing on instruments of music; and in the background appear the heads of some cattle.

In the central panel is the Crucifixion. On the north side of the cross stands S. Mary, with the Magdalene weeping on her shoulder; on the south, the "other Mary" and S. John. Above is an angel with crossed stole and uplifted arms, and in the background the city of Jerusalem, and "many bodies of the saints which slept" arising. The sun and moon are also conventionally introduced; and at the foot of the cross appear the usual emblems of mortality, together with a palm branch, indicative of Christ's victory over death.

The south panel represents the Ascension of our Lord, who is surrounded by rays, and attended by angels bearing the crown of glory. Between, and at the side of the panels, are niches containing statues of the four Evangelists, who stand upon pedestals adorned with their appropriate symbols. The junction of the panels and niches are of rose-royal marble from the Pyrenees, which serves admirably to relieve the statues within. In the spandrels formed by the canopies over the Evangelists are trefoils, in which are sculptured the instruments of the Passion: above those of the Nativity, Crucifixion, and Ascension, occur quatrefoils charged respectively with an Agnus Dei, a floriated cross with interlaced crown of thorns, and a Pelican in her nest. Over the central canopy is a very elaborate jewelled cross; over each of the other four stand winged angels in the act of prayer. The wall behind is carved with a rich diaper pattern.

## CORAL LIME.

EXPERIMENTS have been made, says the *Engineer's Journal* for India, by the officers in the Public Works Department, at Barrackpore and Dum Dum, for the purpose of testing the cost and nature of the lime obtained from the coral of Port Blair. The result has been, on the whole, highly satisfactory; the quality of the lime is pronounced to be good, and the cost, as compared with Sylhet lime, shows a saving of over 100 per cent. In this calculation, however, the cost of shipping from Port Blair has been omitted, as the coral was brought up as ballast. It is reported that the coral makes a fine building mortar, and a fine lime both for plastering and for whitewashing.

One hundred cubic feet of the coral produced about 67 mounds of lime, and the cost per 100 mounds of lime is from Rs. 35 to Rs. 44, exclusive of the cost of the coral; the mound of lime measuring 2.4 cubic feet. The cost of Sylhet lime is from Rs. 55 to Rs. 90 per 100 mounds.

The executive engineer, Barrackpore division, concluded his report on the comparative value of Sylhet and coral lime by observing:—"There does not appear, either from the experiments or from the appearance, any difference between the two kinds of lime; the value seems nearly equal, and the only information obtained is as to the proportions of ingredients which may be made use of; and it appears that proportions of one part of lime to four of sorkie or sand give as good a mortar or plaster as is required. The period of setting in the former mixture does not exceed that of any other mixture; for plaster, the same proportions give a good firm plaster; whitewash was also done with both kinds of lime, but there is scarcely any difference perceptible between them."

It appears that, not many years since, Sylhet lime cost in Calcutta Rs. 45 per 100 mounds; which is the highest price of the coral lime at the present day, exclusive of freight from Port Blair. The freight, however, must be considered, as the supply, in the form of ballast, would be necessarily limited and wholly unequal to meet any fair demand for the article. The question, then, of importance to builders and to the public is, what should be the freight of coral or coral lime from Port Blair. This should not exceed Rs. 10 per 100 mounds, which would enable the lime to be sold in Calcutta for very little more than the cost of Sylhet lime in former times, and cent. per cent. below the cost of the same article at the present day.

It would be an interesting subject of enquiry to ascertain the cause of an increase to the extent of a 100 per cent. during the last few years in the cost of Sylhet lime. Is this due to increase in wages and transport? or can any of it be traced to the monopoly which ever results from imperfect competition? An average yearly addition of four per cent. to the cost of production would certainly be highly improbable. It is much more likely that a very considerable part of the increase has gone into the pocket of the manufacturer, and that his receipts have been very much in excess of legitimate profit. We therefore look hopefully to the advent of the coral lime. If this can be sold in Calcutta at 25 per cent. above the cost of production, it will be a very great boon to the public as reducing building material, and, as a necessary consequence, lowering rent, in a city where house rent is so extravagantly high, as it is in Calcutta.

## LONDON SUBURBS.

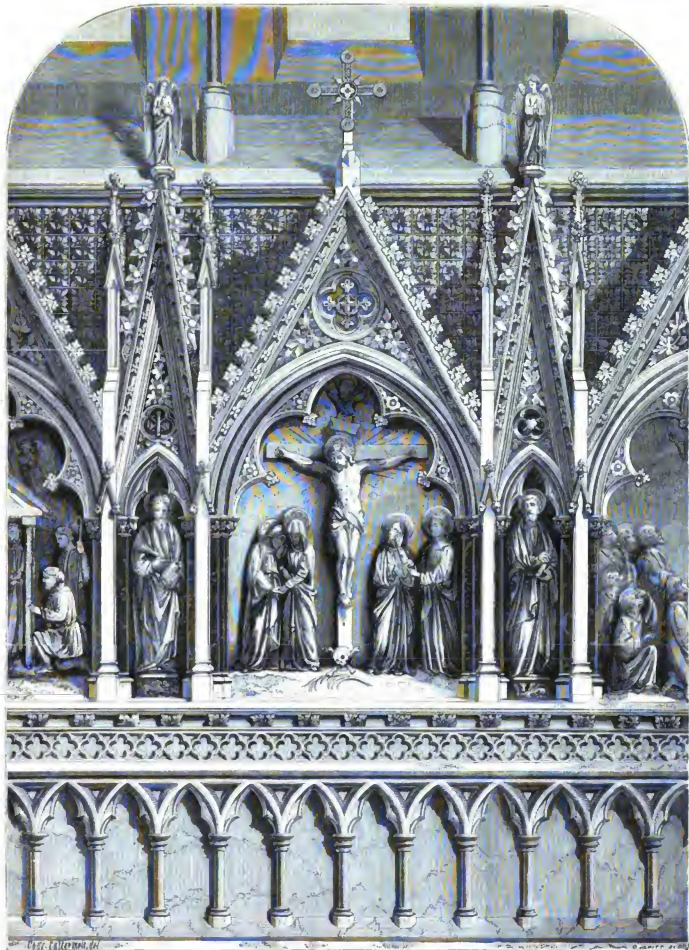
IF there be one thing more than another upon which the inhabitants of London may pride themselves, it is upon the fact, that they possess, within a small compass, a radius of St. Paul's, some of the most delicious scenery which can refresh the eye or invigorate the mind. Let them escape from the bustle and turmoil of the great city by whatever outlet they may, and they are certain to find, within the circuit referred to, sylvan beauties and rural scenes, which cannot but charm them into forgetfulness of the cares and anxieties of business. Whatever the French "gentlemen of the press" may say, too, about the dreariness of the Surrey model of London, we would ask them whether they can point to any great city on the continent which has in its immediate environs any retreat for the week-day toiler which can match with our Kew Gardens, our Hampton Court, or our Bushy Park,—would that we could say also, our Crystal Palace grounds; but these are as a sealed book on Sunday.

Thus we thought while recently paying a visit to one of the most delightful of the places referred to above, namely, Kew Gardens. It ought to be regarded as an inestimable blessing, that within so easy a distance, and at so small a cost, the working bees of this vast hive of industry may on the day of rest betake themselves to Kew, and revel amid the flowers and the forest trees of that pleasant locale. "All work and no play makes Jack a dull boy," and assuredly, the legislature never did a wiser thing, than when they placed at Jack's, ay, or at any man's disposal, at all convenient seasons, gardens, parks, and pleasure grounds. It is agreeable to note that, so far as Kew Gardens are concerned, the march of improvement is still going on. In addition to the thousand and one natural and artificial attractions of that place, a vast Conservatory and Winter Garden is rapidly approaching completion. This edifice, which will be provided with a roof of glass, occupies an extensive area on the right hand side of the grand lawn avenue, between the existing Palm-house and the Pagoda. It is 700 ft. in length, and perhaps 150 ft. in width, and will, when completed, form the largest building for purely horticultural and floricultural purposes in the world. There is at either end of this crystal conservatory a separate circular building, also roofed with glass, and of considerable dimensions. These are intended for the reception of exotics, which require to breathe a warmer and more humid atmosphere than the hard occupants of the gigantic building which separates them. The Messrs. Cubitt and Co., of Finsbury are the contractors for this extensive work, and that is saying that it will be well executed.

On a mound, on the opposite side of the avenue to the new Winter Garden, a flag-staff of unrivalled symmetry and height has been set up. It is made of the Douglas pine, and was imported from Vancouver's Island. Mr. Edward Stamp was the donor of this magnificent structure of the forest. Its total length is 150 ft., its diameter at the base 22 in., and it tapers to a diameter of 8 in. at the top. Two hundred and fifty rings or layers of wood disclose the fact that the huge spar took 250 years to attain its present dimensions. Its weight is 3 tons, and it contains 167 square feet of timber.

## LEGAL INTELLIGENCE.

IN the Hall Court, before Mr. Justice WHISTMAN, in the matter of an arbitration between John Bulmer and Thomas Nicholson and others,—Mr. T. Jones appeared to show cause against a rule, obtained by Mr. F. Russell during the present term, on behalf of John Bulmer, calling upon Thomas Nicholson and Messrs. Bowman and Raine, his sureties, to pay to Mr. Bulmer various sums of money, amounting to £1,033 18s. 11d., found to be due to him under the award of Mr. Thomas Austin, of Newcastle-upon-Tyne, architect. The matter in dispute arose out of the contract for the building of the new hospital or infirmary at Shrewsbury, in 1859, which was entered into some time ago between the governors of the hospital and Mr. Thomas Nicholson, a builder, of Gainsford, near Darlington. Subsequently the contract was sublet by Nicholson to Mr. John Bulmer, and disputes having arisen between the parties, it was agreed that the whole matter should be referred to the arbitration of Mr. Austin, the architect employed by the governors for the erection of the hospital buildings. It was the award made by Mr. Austin, under these circumstances, that it was now sought to enforce in the usual way; and on showing cause against the rule obtained for that purpose, Mr. T. Jones endeavoured to prove to the Court that the arbitrator had exceeded the power with which he was invested by the agreement of reference, and has awarded a considerably larger sum to Mr. Bulmer for the work done by him than upon his (the arbitrator's) own showing. Bulmer was positively entitled to be paid. In support of this view, Mr. Jones read an affidavit, made by Mr. Nicholson's solicitor, but as the main point relied upon therein was contained in a communication from the solicitor of Mr. Bulmer to the solicitor of Mr. Nicholson, which, though written "without prejudice," was unexpectedly (and as it was contended) improperly made use of in opposition to the rule, the learned judge, without asking upon Mr. Russell, whether he made the affidavit, but directed that it should not be enforced until after the last day of term, in order to give Mr. Nicholson and his sureties an opportunity of bringing the amount awarded into court, in accordance with the leave given to them a few days previously by the full court. We understand, however, that the money has not been paid, and that therefore the rule to enforce the award against Messrs. Nicholson, Raine, and Bowman has been made absolute in terms.—*Durham Advertiser.*



THE REREDOS—BEDMINSTER PARISH CHURCH, SOMERSET. Architect, JOHN NORTON, Esq., 24 Old Bond Street. W.

## BRICKS AND TILES.

(Continued from our last.)

**BELGIUM**, Holland, and the Netherlands, and a large district of central Europe, including Denmark, Brandenburg, part of Prussia, and the north of Prussia, are noted for ancient brick buildings. Of this region Brandenburg appears to have been a sort of centre, and here examples of ancient brickwork, extending from the twelfth to the sixteenth centuries, inclusive, can be examined. (See *Essai sur l'Architecture de la Bavière dans le Mittelalter*, and *Aller, Mittelalterliche Bauwerke des Deutschen Reichs*.) The brick buildings, secular and ecclesiastical, of the north of the main buildings of Germany now remaining are Gothic, and some among them are very elaborate, as, for instance, the church of St. Catherine at Brandenburg, of which the richest portion (the chapel of the Holy Sepulchre) was built at the end of the fourteenth century, and executed in variously coloured bricks, ratched with a profusion of intricate tracery, also executed in brick, and hardly surpassed in elaboration by any stone tracery of the same period. The excellence of the Dutch and Flemish bricks and tiles is well known, and they were formerly imported to this country in considerable numbers.

In France (*Viellot le Duc, Dictionnaire d'Architecture*, arts, "Brigue," "Carrelage," De Caumont, *Abécédair*) the use of bricks was introduced by the Romans, and under them, and in the Merovingian period, they were frequently employed in conjunction with stone, as already described; but after the ninth century bricks are rarely found in France mixed with other materials; where used they occur alone. In the south of France, however, brickwork with stone dressings is found, as in the church of St. Sernin at Toulouse, built in the twelfth century, and in other churches of that city. In Langue-doc, a province where stone was almost entirely deficient, buildings of the thirteenth and fourteenth centuries are found built almost exclusively of brick, but this material was very rarely employed during those centuries in other parts of France. Specimens, however, exist at Toulouse, Alby, Moissac, &c. Bricks enameled of different colours were, moreover, often employed at this period for interior linings to walls, and brick was also made use of with excellent effect in filling in the spaces in timber-framed constructions.

At Moulins, in the Bourbonnais, walls in ornamental brickwork are found which date from the fifteenth century; they are executed in bricks of various colours laid with thick beds of a mortar of extraordinary strength.

In the succeeding century, the sixteenth, brickwork mixed with stone came much into use in France, and from that century to the present day in this manner the building has been extensively made use of in that country. In some of the castles of the sixteenth century, for example, the Chateau de Livré (see De Caumont), a species of chequered work, of bricks of several colours alternating with blocks of stone, has been adopted for the walls, and harmonises well with the variegated and enameled tiles for roofs and enameled bricks for floors which by that time had come into use. Parts of the châteaux of Blois and Fontainebleau may be cited as effective examples of the mixture of brick and stone.

The earliest paving tiles known in France, are those discovered at St. Denis. The pavements there were formed of very small pieces of tiles, measuring not more than 1½ in. square, and closely resembling ancient mosaic. Enameled tiles are found in the paving of some churches in France, dating from as far back as the middle of the eleventh century, but the number of specimens remaining from that and the twelfth century is extremely small. In the thirteenth century the mosaic floorings just referred to were replaced by tiles encastrated with ornaments. Some tiles of this period had a sunk pattern simply impressed upon them, and it seems probable that those first manufactured were of this nature, and that the practice of filling up this impressed pattern with clay of a different colour and glazing the whole was the subsequent step in the manufacture. In the fourteenth and fifteenth centuries the paving became very extensively employed, and in some of them comparatively small squares of inlaid and enameled tile are combined to form patterns of large size and of the greatest richness and beauty. Of those the most celebrated is a fine paving in the church of St. Pierre sur Dive. In some instances monumental effigies were formed of encaustic tiles.

In the fifteenth century, and in the sixteenth century enameled and coloured tiles came into general use for roofs; plain tiles having, no doubt, been long employed for the same purpose. These ornamental glazed roofing tiles have continued in use in parts of Germany and France to the present day.

Ornamental finials and crests in tile and terra-cotta were frequently made use of in connection with these glazed roofing tiles, and were many of them of a highly elaborate character of work.

Turning to our own country, it appears that the Romans introduced the manufacture and use of bricks and tiles into England, and they are constantly met with among the Roman remains. There is, however, reason to believe that, although tiles for roofing and flooring probably continued to be manufactured for bricks, if any, were produced in England from the Roman time till the end of the thirteenth century; for where bricks occur in buildings erected during that period, they seem to have been always plundered from the ruins of some Roman building, and commonly have pieces of the Roman mortar adhering to them. This is the case at Dover Castle Church; St. Martin's, Canterbury; Darent Church, Kent; Burnick; Colchester Castle, and in other instances. It is related (by Matthew Paris)

that the Saxon abbots of St. Albans, having been obliged, through famine, to sell the store of materials they had collected, for the purpose of rebuilding the Abbey church, the Norman abbot had recourse (a.d. 1077) to the English who were to be found in the adjacent city of Verulam, and that with those he built the church. They still exist and are visible in portions of the structure.

The earliest existing edifice of modern bricks is said to be the Hall at Little Wenham, Suffolk. This is dated about 1260, or 1280. A good description, with illustrations, is given by Turner, *Domestic Arch.*, 8vo, London, p. 151, who seems to think that the earliest brick buildings of this period were the work of Flemings, or at least were built of Flemish bricks. The bond very much resembles what is called Yorkshire, or flying bond. After this period the use of bricks became more and more common, especially in those countries where stone is scarce. Norfolk and Suffolk contain many beautiful examples of mediæval brickwork, as Caistor Castle. In many places, after the Reformation, it seems almost as if there have superseded the use of stone, &c. (Arch. Pub. Society.)

Tiles for roofing seem to have been in use in this country at a very early period, so much so that in taking down part of an old Norman building in Southwark, at the time when the approaches to New London Bridge were formed, tiles were found built into the wall which had indubitably been constructed for use as roofing tiles.

The most ancient ornamental flooring tiles found in this country appear to belong to the thirteenth century, and numerous examples of them from the fourteenth and fifteenth centuries are found. Few of the remaining pavements exhibit large and elaborate patterns formed of a combination of small pieces; their usual character being a repetition of a pattern of small size, sometimes contained on the single tile, and at other times formed by the combination of four or six, or eight, or some other small number of tiles.

In the fifteenth century (a.d. 1472) the manufacture of tiles was of so much importance even in England to require regulation by a statute (stat. 17 Edw. IV. cap. 4); and tiles dating from the middle of this century (a.d. 1462 to 1456) occur at Great Malvern, where they were employed as a decorative lining to the wall of the chancel round the high altar. In the sixteenth century, the manufacture seems to have declined, and the use of English tiles is said to have been superseded by the importation of Flemish tiles. (Glossary of Arch., art. "Tiles.")

Much excellent and curious brickwork of the seventeenth, and some of the succeeding century exists in various parts of England, the ornamental portions being partly executed in moulded bricks and partly enriched by carving done on the brickwork after it has been built up.

The duty levied upon bricks was first imposed a.d. 1784, at the rate of 2s. per 1,000, and continued in force, but at higher rates, till a recent period.

From the simple nature of the material, fewer instances of unusual varieties and of special modes of manufacture are met with than occur in many other branches of manufacture. Vitruvius (*Hist. Nat.*, lib. xix., c. 14) mentions bricks light enough to float in water, and Fabronius discovered a substantial brick of France, a specimen between Tuscany and the Papal dominions, capable of being made into such bricks. Porous bricks, which will float in water, are said to have been employed, on account of their lightness, in the vault of St. Sophia, at Constantinople; and in some of the Roman vaults hollow bricks were used on the same account. Similar bricks, derived and manufactured expressly for the purpose, were employed in turning the great vault over St. George's Hall, Liverpool.

Most of the steps in the history of the introduction of machinery for the manufacture of bricks can be traced in the accompanying series of specifications. Perhaps the most important invention relating to brick-making, the first introduction of which is not there recorded, is that of mixing ashes (technically called soil) with the brick earth, and the employment of coarser sand in the burning of bricks. The discovery that the refuse of the fire could be thus utilised has proved of the greatest importance, especially to the brickmakers of the district round London, when or by whom that discovery was made is now quite unknown.

A comprehensive and very complete account of the manufacture, properties, dimensions, and uses of bricks is to be found in the articles already repeatedly quoted in the Dictionary. The Architectural Publication Society, under the title of Brick, Brickmaking, &c., and references may be found in those articles to most of the publications from which further information may be gained. In addition to some of the works already mentioned in the foregoing notice, these references include the following works:—Seroux d'Agincourt, *Recueil des fragments en terre cuite*, Paris, 1814; Hawksley, *Observations on Building and Brickmaking*, 12mo, Manchester, 1834; Weeks and Gougeon, *Die Baukunst-Lehre*, &c., Leipzig; Deben, *Handwörterbuch der Baukunst*, &c., 1836; *Practical Treatise on the Manufacture of Bricks*, 12mo, London, 1850; Rondelet, *Traité théorique*, 10th ed., 4to, Paris, 1852, and *Supplément*, by Blouet, 1856; Delongue, *Art de Briquetter*; Simon, *Account of Brick-making at Bletchington Tunnel*, 1840-41, given in *Civil Engineers' Journal*, vi., 348, and Clero, *Essai pratique sur l'art du Briquetter*, &c., 8vo, Paris, 1828.

## DISTRICT FIRE BRIGADES.

WE perceive that a movement has recently been made, in the populous district of London known as Kentish Town, toward the institution of an independent Fire Brigade. The idea is an excellent one, and we look forward with considerable interest to its realisation. The rapid growth and development of the suburban districts of the metropolis



generally, during the last half-dozen years is something marvellous, but we question whether house—nay, street—building has been carried on so far as when during that period to the extent that it has in Kentish and Camden Towns. As if called into existence by the enchanter's wand, whole ranges of buildings there spring into being at once, as it were; and that which was but yesterday a large area of waste ground, is to-day covered by brick and mortar, and to-morrow will be inhabited by thousands of colonists. If it be a mystery as to how so many new houses are built in so short a space of time, it seems a still greater mystery as to where the tenants come from who occupy them before they are well finished. However these things may be accounted for, they are facts; and it becomes, therefore, a very pertinent question for the inhabitants of the crowded districts, as to how they are to protect themselves from the evils of fire. It is quite true that the fearful increase in the number of fires in the metropolis, and its outlying districts, during the last year has attracted the notice of the Legislature, and that a committee of the House of Commons have sat and reported upon the matter. Governmental machinery, however, moves but slowly, unless pressure be exerted to expedite its movements, and, to give another reading to an old adage: "While legislators deliberate, fire destroys."

The people of Kentish Town, therefore, are to be commended for taking the law into their own hands in this case, and in organising for themselves arrangements for the speedy extinction of fire. It is a positive fact that at present the whole parish of St. Pancras—in which the principal part of Kentish and Camden Towns are situated—with its population of 40,000, possesses but one, and that a very old, fire-engine. The nearest station of the London and Bristol Street, Oxford Street, and so forth, may be easily conceived to what extent of danger the inhabitants of the districts in question are constantly exposed. It is proposed, we believe, that the station of the new Kentish Town Fire Brigade shall be established in Ferdinand Street, Hampstead Road, that being in the very heart of the unprotected locality. The preliminary steps have been so far taken as to warrant the engagement, provisionally, of a powerful engine of the most improved form, and constructed by Messrs. Stans and Mason of the Blackfriars Road. Arrangements have also been entered into with a Superintendent and a staff of firemen, for the purpose of giving effect to the intentions of the spirited promoters of the plan. Voluntary subscriptions are to afford the means of supporting it.

It may be trusted that other districts will follow the initiative of Kentish Town, because whatever may be the recommendations of the Fire Committee to which reference has been made, it is certain that only good results can follow a spirited determination on the part of the inhabitants of London and its suburbs to help themselves in suppressing fires.

#### GAZ APPARATUS AT THE INTERNATIONAL EXHIBITION.

(Concluded from our last.)

**T**HE wear and tear of cast-iron retorts when used for oil-gas making, forms a large item in the cost of manufacturing this gas. In some countries coals are dear, inferior in quality, producing poor gas, though the price per 1,000 is high. In gas-works so situated, it would probably be advantageous to have a cistern of petroleum oil fixed outside the retort-house. Then a main pipe from the cistern, with branch connections to each of the clay or iron coal-gas retorts, would permit a jet of oil to be sent over the heated coke in each of the retorts towards the latter end of the charge, thereby considerably improving the illuminating power of the gas made. The distillation of Boghead canal coal will probably now be discontinued by the paraffin oil and candle manufacturers, who will find this rock oil the most economical for their purpose. The principal products derived from the distillation are the same as from coal, namely, naphtha, for melting india-rubber and resins; benzole, for dissolving fat and vaporising oil; illuminating oil, convertible into gas; heavy lubricating oils, and naphthalene.

A great improvement can be noticed in the workmanship and compactness of the diminutive gasworks shown, Class X. Nobody who has ever before seen a coal-gas apparatus, could conceive that one could be fixed for a house requiring twenty burners on two ornamental stands, about the size of two drawing-room chairs, exclusive of storage-room for gas before making, exhibited by the inventor, Mr. G. Bower, St. Neot's. One of these little stands contains a vertical retort, the novelty consisting in lowering a lever attached to a lime-laid lat at the bottom of the gas-retort, which permits the used charge of coal, after being changed into coke, to fall out. By raising the lever, the retort is ready for recharging at top. The second stand contains a small horizontal retort, the inner ring forming a case for four tiers of sieves for lime purification; the door acting as a well for sealing the connecting-pipe to the retort. Messrs. Porter and Co., Lincoln, have a stand well worthy of inspection, it contains three gas apparatus, two being constructed in the usual manner, suitable for lighting country factories and farm houses; the third being one adapted for canal coal, invented by Mr. Bower, and called the "National Gas Apparatus." Nothing could be better adapted for the "householder's" consumption, where goodness, but not cost, of the gas is considered. The patent consists in feeding a retort by a hopper, and forcing, with a screw arrangement through the mouth-piece, the used charge of coal into a pan of water at the back end, and below the retort, where it would not be subject to the action of the furnace-fire. At the time of the late Crystal Palace Exhibition in Hyde Park, White's hydrocarbon gas was shown to be supplanting the old and present mode. Its arrangements were based on scientific principles; the passing the vapour of water over iron cuttings, which absorbed

the oxygen of the water and set the hydrogen free for forming carburetted hydrogen when passed over heated coke in a sealed vessel. So far as Great Britain is concerned, this patent is a dead letter. Two wheels support a furnace, the fire of which plays on a vertical gas retort, the open lower end of which terminates and is sealed in a water-cistern; consequently, half the retort is consuming coal, the other half creating steam. There is a large waste of fuel, the heated gas, the waste of the water passing through the whole of the red-hot coke, taking towards the end of the retort, thus producing carbonic acid and light carburetted hydrogen gas. The exhibitor, Mr. L. Edmondson, should discontinue at once such a faulty arrangement. If he likes to have a furnace on wheels, let him cast the vertical retort with the floor closed, and place the outlet at the lower part of the side, thus saving the lid, and saving the waste of the water, the usual way. The great object in all gas-works is to use coal perfectly dry. To patent a method that keeps coals damp when employed in making gas seems a little remarkable.

Class X, also, has some bituminised pipes for gas and water purposes—size, from 2, 4, 6, in. bore, and under; lengths, from 9 ft. to 6 ft. Time alone will prove whether such description of pipes will retain water under pressure, or least the chemical action of gas. There are some large sized cast-iron pipes, by Mr. D. Y. Stewart and Mr. Edlington, Glasgow, manufacturers. Messrs. Cochrane, Dudley, in Class I, also exhibit a very large cast-iron pipe. Returning to the Civil Engineering department, Mr. George Glover shows his patent standard gasometer, fitted with "Negretti's" patent gas thermometer. The improvement effected by Mr. Glover is considered of great value, as the meter is so constructed that it is the measured gas out of the cubic foot holder, whereby a portion of the gas became disseminated in the water of the tank—the difference being the raising a tank full of water for the purpose merely of displacing in the holder the issuing gas passing into the meter to be tested. The Gothic gas chandeliers shown by Messrs. Harts, London, and R. W. Winfield, Birmingham, are worthy of inspection. Mr. Messenger, having some of a novel character, designed by Mr. Digby Wyatt. The stand of Messrs. Mapplebeck and Lowe contains gaseliers having many varieties of lacquer. Lambert Brothers, Walsall, show a gas valve, which indicates on a plate the degree it may be partially or fully open, or wholly closed. Mr. K. H. Hughes' safety whistling chamber is to be seen in Class XXXI. The action is simple: when, through the evaporation of a warm room, the water in the outer pipe of the telescope has become too little, gas passes under the end of the middle pipe, which, on escaping at the top of the outer pipe, blows a whistle fixed there. In a similar manner might be placed whistles to lower casks of gasholders in gas works, which would announce their being full. Mr. Clarke shows his patent gas regulator, which, like those introduced by Mr. Hart and Mr. Paddon, will save people the trouble of having to adjust their gas burner taps, of an evening. Mr. Laidlaw's stall contains Allen's safety protecting and compensating gas meter.

At the last Exhibition there was shown an unpainted meter by Mr. R. C. Mead, which contained the principle of replenishing from a reservoir by the rotary action of the wheel the water absorbed by the dry gas from the drum. Since then, probably twenty patents have been obtained for doing the same thing by a slight alteration of manner.

On account of the porous nature of the clay gas retorts, in large gas-works it has been found necessary to force the gas, after being generated through the pipes and layers of purifying materials, to prevent back pressure on retorts: This is done by a peculiarly fitted steam-engine called an "exhauster." Singularly enough, no such kind of machinery can be noticed in the building; though from the circumstance of very little power being necessary, the smallest engine suffices. The refuse gases from other furnaces in gas works would keep exhausters in action. The attention required when in use is inconsiderable almost nominal. Exhausters prevent a considerable loss of gas; it is probable before long, in works where over five millions of gas is manufactured annually, they will be generally introduced. On two pedestals at the steps under eastern dome are two beautiful medieval gas standards fully 6 ft. high, made for the cathedral, by Mr. Skidmore; the deep tone they are painted, partly blue, purple, brown and green, harmonised so infinitely superior to the paltry, tawdry, glittering, yellow lacquer. Mr. D. Dawson, Class I, shows a bottle of coal tar and its products, crude naphtha, benzole, aniline, and the beautiful Magenta dye. A few years since the carbon encrustation of retorts formed part of the refuse of gas; it is now sought by manufacturers for mixing with fire-clay, to make crucibles for melting copper, which gives by the nature of the improved crucible; Mr. Hall and others exhibit them. Some consider this kind equal, if not superior, to the patent platinum crucible.

A Mr. Warner advertises his patent anhydrous oxide of iron by means of a placard hung up in Class I. This placard bears a highly coloured print of a gas works, bought evidently at a shop in the "Strand," in whose window the placard has appeared since for the use of schools during the last twenty years. For a long period the use of such placards has been common, and for other metals for gas purification, has been generally appreciated, on account of their revivifying after repeated use, when exposed to atmospheric influence. Mr. Cockey shows his patent centre valve, which bears a striking resemblance to those used by Mr. Malam, thirty years since. There is also a patent-safety mode for drilling and tapping gas main pipes to connect services, the safety of which is proved by the use of a piece of steel. The escape of gas is prevented by the neck of the drill-tap being encircled by a pad. The Wood Street explosion caused this ap-

paratus to be invented. Samples of the red-painted tin canisters which disfigure many of the public lamps, are, it appears, now at the Exhibition. If the fluid, probably petroleum oil, used by the Carlsnitting Company, conforms, when vaporised in coal gas, such an increase of illuminating power, surely the combination should take place at the gas works in the manner suggested already. To carry this out, perhaps, the gas burner should be removed, and the fluid burned in Holliday's lamp. When coal gas is burned perfectly, all its illuminating power is produced without any such aids.

Mr. Prosser's patent oxy-hydrogen lime lamp may be seen, being the particular one which was used during three months at the South Foreland lighthouse. It is stated that the lamp has burned for sixteen hours, without requiring any attention. About two years since, the lime light for some time was used at Westminster Bridge. This light is produced by the joint combustion of hydrogen and oxygen gases, in very minute quantities, upon a wick of lime. The great cost of manufacturing oxygen, together with this mode requiring two lines of pipe for each lamp, caused its use to be discontinued.

The late George Stephenson was the first who suggested, that the coal formations absorbed from the sun, in past ages, the illuminating power which now lights our streets at night. This idea is still promulgated by writers and lectures. To substantiate this notion, some matter should now be re-allocating the light given forth daily, not only by the sun, but by fires and other artificial means continually in use for producing light. There is no agent, oxygen, which decomposes minerals, rocks, &c. continuing afterwards in the form of oxides, &c., to be absorbed for a time by the substances sublimed. The continuous action of oxygen has been going on since every alteration in the earth's surface can be conceived. Assuredly oxygen, which reduces everything, the action of which causes all light, requires, when absorbed by its affinity to other substances, to be restored. May not, therefore, the sun's rays be a producer of oxygen in the upper atmosphere?

GEORGE WALKOTT, C.E.

## THE REV. GEORGE WILLIAMS, D.D., ON ECCLESIASTICAL ARCHITECTURE IN GEORGIA AND ARMENIA.

THE CONVENT AND CHURCHES OF SAFFARA.

I MUST now beg you to accompany me up the lovely valley of Borgej, into the wild volcanic district of Abkhazie, where in a narrow gorge which opens on the west bank of the Georgian Black Sea, are found the most interesting and picturesque ruins of the Convent of Saffara, built on an artificial platform, partly levelled in the rocky hollow of the valley, partly formed of solid masonry. Its eastern and western boundary walls are drawn right across the rugged valley, the northern and southern walls are composed of steep sides, following the irregularities of the ground, having a circumference of more than half a mile. At the north-west angle of the enclosure is a castle, situated on the wall itself at its highest part, and commanding the whole position.

The monastery of Saffara is the centre of the province, but its principal church, with which I shall commence my description, as I did my survey, is named after St. Saba, a saint of Palestine of the fifth century, whose celebrated monastery in the wildest part of the wilderness of Judaea is known to all who have travelled in that country; and the dedication of a Georgian church to a comparatively obscure local saint of Syria, is a striking indication of a well-attested historical fact, that the Georgian Christians of the Middle Ages were among the most numerous and devout pilgrims to the Holy Land, where they were treated with greater consideration by the Moslems than any other pilgrims.

The exterior plan of St. Saba's Church is a parallelogram. Its interior circumference, similar in this as in other respects to the church of Timotheosmé, which I have before described as a type of the larger churches of Georgia. The nave of single bay; the peculiar aisles; the transepts extending the whole width of the building; the deep apsidal sanctuary (semicircular within, flat square without), flanked by chapels, so to speak, with similar terminations; and the polygonal lantern at the intersection of the roofs, are features common to the two buildings, as is also the massive stone roofs with the bold overhanging cornice. The general dimensions are nearly the same, the Church of St. Saba having slightly the advantage in size.

The construction of the arches is of the rudest type of Romanesque, utterly devoid of moldings or ornaments of any kind. A short shaft resting on the crown of the principal arch, and carrying a trifoliate arch, forms a narrow gallery over the diminutive aisles, which open also by narrow round-headed arches into the transepts.

The Church, sufficiently lighted by the elegant lantern (circular within, but polygonal without), has windows only in the centre of the apse, and the extremities of the transepts, small single lights of Romanesque very much stylized.

Of the side chapels of the sanctuary, that on the north communicates with the transept, as well as with the lantern, and is separated from the choir, as at Timotheosmé. The apses of both are pierced with narrow round-headed lights much stylized. In the apse of the north chapel still stands a very remarkable altar, consisting of a round shaft with a cushion capital, the absence of which serves as the only table, being much smaller than a foot square. In front of this is another modern altar, which is still occasionally used.

Immediately within the entrance of the south chapel, on the right, a hole in the floor suggested the idea of crypts, which the situation of the church seemed to warrant, and the native account of large vaults extending under the whole church—filled with human bones—led me to the belief, that, excited by my curiosity, which was far from satisfied, when having, after infinite trouble, effected an entrance by means of a rickety ladder, without rounds, I found that the crypt extended only under the north chapel. However, I had done my duty as an ecologist, and risked my neck into the hole.

I shall have done with the interior of the church when I have further mentioned that the walls appear to have been covered with frescoes. The most interesting of what remains is also probably the most interesting. It is on the wall of the south transept. The picture represents two Georgian princes—

astabes—in rich national costume, still in use, presenting a model of the Church to our Saviour through the intercession of the saint to whom it is dedicated. The figures are larger than life, the treatment no doubt conventional, but good. As to the identity of the saint, there is no question, since his name is written in the character called 'khoutouri,' near his head; and the name and title of one of the chiefs has been deciphered:—'Beka, spassar, generalissimo of Samtskhe.' The fragments of a longer inscription were read, and the chief of the church, M. Brosset's request to Prince Bagration, the inscription obviously amounted to an invocation of blessings temporal and spiritual on the restorer of the church, in consideration of his services to the house of the Lord; and this benefactor was Sargis, commander-in-chief of the Samtskhe, son of Beka, chief of the church, and the mandate of the prince, and the notices will be of service when we come to the history of the church, which we must now leave by the west door, in order to examine the porch, when we have just noticed, by the way, that there is also a north door giving entrance into the north aisle, only recently mentioned without notice, and which is a fine foliated Greek cross, with the brief inscription, 'Christ, the Word of Life.'

The porch is 26 ft. long by 9 ft. 6 in. deep, with north and south doors, supported by three round arches, resting on round shafts. The beauty and finish of its exterior work is chief among the charming features of the monument. The interior work, to which I have already adverted, and would seem to indicate a later period, and a further advanced stage of architectural science. And yet, on the other hand, the exterior ornamentation of the doors and windows of the church, which is almost equally rich—specimens of which I am able to exhibit to you—and which seem to be coeval with the building, prevent me from positively adopting this hypothesis, especially as the inscriptions on the porch itself apparently belong to the same period as the princes whose names are recorded in the interior. One of these inscriptions runs partly as follows:—'The porch is at its foundation . . . by the hand of Phares-Daz (or the son of Phares), God assails him.' Without the circle, in characters not carved, but only painted, is apparently the date; but impressed in a manner utterly unusual in Georgia. The value of the characters is 500 + 100 + 2 + 4 = 602; but as the 2 is left absolutely undetermined, the date must be purely conjectural. M. Brosset suggests that the copyist—the universal scapegoat in all such cases—has inserted the 100 by mistake, and that the date should be 502. [510] (of the Pascal cycle), which would correspond with 1269 A.D. (the year 100 numbers as far as 552; from which he concludes that the date ought to be read 525 + 1309 A.D. Such a deduction from a baseless hypothesis does not satisfy us; but I have nothing more plausible to suggest, unless we are at liberty to suppose that the Mohammedan era was in use in Georgia—as in other parts of the Christian east—which would give us a date corresponding with A.D. 1213.

On the curved stone which forms the lintel—or rather the tympanum—of the west door of the church, are two very remarkable inscriptions. I translate them as accurately as I can. The first, in Georgian characters, is as follows:—'The name of God, I Okra, son of Galatza, have offered 100 botinas . . . to establish for ever an agnate for the first Lord's Day of the Pascal full moon. Whoever shall alter this institution is anathematized by the mouth of God.' The second, in the Eastern script, is as follows:—'The name of God, as given by the Emperor Nicephorus Botonates, who reigned from A.D. 1078–1081. The other, beneath the preceding, is still more curious:—

'In the name of God, with the assistance of the most holy mother of God, and St. Saba, the saint, I, Sargis, the servant of God, my own free will, have fallen in full possession of my faculties, have offered to St. Saba my estate of Tikhia-Djovan, without reserve, with the fortres, the church, the waters, the woods, the forests, the royal demesnes, the corn-lands, the vineyards, in one word, all. No man may rob (father his) home, my estate, or the land of the saint, or the portion. . . . The principal of the monastery, who partakes in this benefaction, will not refuse me religious priests (to celebrate). Whoever shall take away from St. Saba my estate, he shall make satisfaction for my sin. May his soul . . . in his unfaithfulness to St. Saba, All this that is written is enough, and more than enough. The last shall celebrate for ever the agnate written by the door. Whoever shall alter this is anathematized by the mouth of God.'

Beneath this, again, in large, deep cut characters, is the dedication of the door itself: 'Lord God, receive this door as Thine; Thine is the obol of the widow, God have mercy on the pilgrim, George Mada, amen.' At the side of the great charter is this: 'Lord, have mercy on Tarkha Tudu. I have offered to St. Saba of Tikhia-Djovan my estate . . . Unfortunately none of these names are known to history, so that they determine nothing as to the date of the church.

I proceed now to the other buildings. Adjoining the porch on the south side, and covering the west front of the south aisle is a small Lady-chapel (of our Lady), said to have been built before any of the others. It has no exterior inscription, but the figures are the portraits of the two benefactors, St. Saba and Chalva. This is important, as fixing approximately the date of the building: for Sargis of Djag is the prince who first established the independence of the abates, under King David V. He died in A.D. 1285, and was succeeded by his son, Prince Sargis II, we have already seen depicted on the wall of the south transept.

Attached to S. Mary's and abutting on the south wall of the great church, extending as far as the transept, is the chapel of St. Marina, not more recent than the others, but distinguished by its architecture, and by the fact that St. Saba and Chalva have a separate lean-to roof. The arches at the east end of this chapel are remarkably rich, and many loose stones lying on the ground are exquisitely chiselled. On the north wall is the following inscription: 'Lord supreme, Divine Christ, have mercy on us glorify Thee, exalt Thee, and glorify Thee, Lord Beka, chief of the mandators, and his sons: who has desired to grant a place of sepulture to us, unworthy to be his dirt; to Laswir, son of Laswir, and his brothers.' Under this inscription are full-length portraits of the three benefactors, St. Saba, Chalva, and Laswir, on the right, entitled, chief of the abates; between the other two is Prince Sargis, in monastic habit, and on this account the place of honour is assigned. Opposite to these under a window are the figures of St. George, St. Demetrius, and St. Theodore.

This, then, was a mortuary chapel of these three brothers; and the state of the ground in the middle of the building seems to show that there was formerly a sepulchral vault beneath the pavement. Beyond, i.e. south of this church of St. Marina, is the small chapel of St. George, on the front of which M. Brosset saw a rude carving of St. George and the Dragon, which is now lying among the rubbish of St. Marina's Church.



## CHURCH, CHAPEL, SCHOOL, AND OTHER BUILDINGS.

**GREY FRIARS' CHURCH, READING.**—The work of restoring this old building is proceeding rapidly. As the brick-work which has been removed, it is discovered that a large portion of the stone work is in a good state of preservation; and all the old works that can be safely left will not be moved. The arches and pillars, with one or two exceptions, are complete, and in excellent condition; and while we may have regretted that the building had been so long converted to such a sacrilegious use as that of a thorough Bidoil work, there is no doubt that that use has been the means of largely protecting it from decay. The first work on some of the outer walls is also in a good state, and will only require "pointing;" and there is also much of the external stone work perfect. The visitor can now obtain some notion of the noble proportions and former beauty of the church, and, from the way in which the work has been so far carried out, we have every confidence that the building will be faithfully restored. We are glad to learn that the Rev. W. W. Phelps, through architect, Messrs. Poulton and Woodman, has succeeded in purchasing a piece of land from Mr. F. M. Slescombe, on the north side of the church, for the purpose of building a transept, to correspond with one on the other side. Portions of the old floor have been found; and it appears to have consisted of small red tiles, coated with a yellow enamel. Contracts have been entered into with Messrs. Wheeler for the stone work, amounting to £1,886, and Mr. Sheenell, for laying on the red tiles, and the cost of the work on the north wall in both cases to be completed at Christmas next. The contract for the internal fittings has not yet been settled.

**FROME CHURCH.**—**PURBORN REFORMATION.**—The fine old parish church of Frome is now in course of restoration. It is a good specimen of the old parish churches of England, of which Somersetshire boasts not a few. The first church was built and endowed by Athelstan, Bishop of Sherborne, in the time of Ina, King of Wessex, a. d. 785. The first incumbent of whom we hear was Reinbaldus, who had the good fortune to be Chancellor to King Edward the Confessor, and who was no less a favourite with William the Conqueror. Reinbald is mentioned in the "Domesday Book," as priest of Frome. Henry I., into whose possession all the lands of Reinbald fell, and among them those of Frome, passed them over to the foundation and endowment of the Abbey Church of Gwentwary; and from that time, the abbots of that monastery applied a vicar to Frome. In after ages the lands passed (in the reign of James I.) into the hands of the family of Thynne, who have ever since enjoyed the patronage, advowson, and right of nomination to the vicarage. In later times this church has become famous as the burial-place of one of the best and most faithful confessors of the English Church—namely, to Thomas Ken, Bishop of Bath and Wells, who died in 1721, wherever he might die, he might be buried in the churchyard of the nearest parish within his diocese, and be carried to the grave by the six poorest men in the parish." And this wish was fulfilled. He lies under the window of the chancel. A brass tablet has been placed in the chantry chapel adjoining, together with the gift of a painted glass window, recording the life of Ken. This touching inscription appears upon it:—"Inspired by the life of Ken, deprived by another king, he lived, he died, he was pronounced unsafe, from mere old age and decay of time, and now contributions are solicited for its restoration. The chancel was restored, some fifteen years ago, by a committee, over which Mr. Markland, of Bath, presided. Those who reverence the memory of such a confessor as Ken, as well as those who sing his hymns—and in what church are they not sung?—will, we hope, contribute to this good work. A man who stood so distinctly before the Church, as a representative of the faith, opposed in one extreme to James II., and equally, on the other, to William III., and yet suffering at the hands of both, merits not a little at our hands. The parishioners, in public vestry assembled, have confided the work of restoration entirely to the hands of their present vicar (the Rev. W. J. F. Bond). They, however, have contributed already £3,600, and it is feared that at least another £2,000 will yet be required."

**CHAPEL AT NEW KNUTTON.**—The denomination of Christians known as the United Methodist Free Church having determined to erect a place of worship at New Knutton, near Newcastle (Staffordshire), recently purchased a site for that purpose in a convenient part of that rapidly increasing village. Mr. Tonge, of Newcastle, has contracted to erect the edifice for £170. The dimensions of the building will be 30 ft. by 25 ft., and about 150 sittings will be provided. The corner-stone was laid on Monday afternoon by Mrs. W. Lawton, of Salfordale, and the ceremony appeared to create much interest, a large number of persons being present to witness it. After devotional exercises, the stone (under which was placed a bottle, containing a copy of the connexional principles, a copy of the circuit regulations, the names of trustees, and the name of the person laying the stone) was lowered and adjusted. Mrs. Lawton then declared the corner-stone to be laid.

**BAPTIST CHAPEL, WILLENHALL.**—The foundation stone of a new Baptist chapel in Upper Lichfield Street, was laid on Monday by the Right Hon. Lord Teynham. The chapel, which has been designed by Mr. C. Manton, of Wolverhampton, will contain 556 sittings, and the schools at the back may at a future time be added, which will increase the seating capacity to 650. The total cost will be £1,500, and it is expected that the building, which is being erected by Mr. D. Evans, builder, of Wolverhampton, will be completed by Christmas. Lord Teynham laid the memorial stone. It was placed in the front of the building, and bore the following inscription:—"This stone was laid by the Right Hon. Lord Teynham, on the 19th day of May, 1862." Beneath it was placed a glass bottle, containing several documents.

**WESLEYAN CHAPEL, WALSHALL WOOD.**—On Monday the first stone of a new Wesleyan chapel was laid at Walshall Wood, by Mrs. R. Bloomer, of the Grove, Ipswich. A silver trowel and a mahogany mallet had been provided by a number of ladies, and were presented to Mrs. Bloomer by Mr. John Brewer. After the stone was laid, the Rev. William Naylor, the chairman of the Birmingham district, and the oldest minister in the Methodist church, delivered a most impressive address, and gave a most comprehensive summary of the Methodist doctrine. The design of the chapel is of the early English style of architecture, and it will cost about £400, nearly £300 of which is now collected.

**TOUSEN END CHURCH, BRAY.**—On Friday last, the church of Touseen End, Bray, was consecrated with the usual solemnities. This is the third additional place of worship erected in this extensive parish, within the last seven years. Touseen End, a hamlet on the White Waltham border, is more than two miles from the parish church; the greater portion of its population, therefore, could not, without much inconvenience, avail themselves of its services. To remedy this evil, the new church, which already Trinity Hall has been erected, chiefly through the exertions of the vicar, the Rev. J. E. Austen Leigh, aided by the munificence of one who still continues to take a lively interest in the flock dear to her late husband. The church, which will accommodate about 160 persons, consists of nave and chancel, and is constructed of red and black brick, in the decorated style, with Bath stone dressings. The chancel window is adorned with stained glass, of geometrical designs. And the south window of the nave is filled with quarries, surrounded with coloured borders. Behind the altar, is a handsome recessed of stone, diapered, and relieved with blue and gold. There is a nicely-placed credence in the north wall, adorned with tracery and symbolical clusters of grapes, and ears of corn. The sanctuary is paved with Minton's encaustic tiles. The altar rails are of stained deal, as well as the other fittings of the church. The front, of Caen stone, is octagonal, and inlaid with coloured marbles. The oak porch on the north side, is well proportioned, and imparts a pleasing and picturesque appearance to the building. As a whole, the church is as chaste as it is unpresumptuous, and reflects the highest credit on all concerned in its erection. Annexed to the church, is a neat school and teacher's residence, harmonising with it in their general character and style.

**SCOTLAND.**—The nave and aisles of this church having lately been restored and partially rebuilt, will be opened on Thursday, June 12. Collections will be made at the offertory in the morning and after the evening service, in aid of the fund for restoring this church, in which there is a deficiency of about £150.

**THE CATHEDRAL OF GLASGOW.**—We have heard of the safe arrival of the last stone for the east window of one of the noblest Gothic monuments in Scotland, Glasgow Cathedral. The figures in the new window, the gift of the Crown, represent the Four Evangelists, and are from the designs of Professor John Schrandolph, whose works in fresco are well known. Another window of special local interest, the gift of the member for Glasgow, Mr. Buchanan, and of Mr. Hamilton, of Minard, has also reached the cathedral in safety. The touching subject, as the noblest of the parables of the Kingdom, and his servants, and have been designed by Mr. George Fortner, the author of several windows already in the cathedral.

**PENICUIK FREE CHURCH.**—The foundation stone of the new Free Church at Penicuik, near Edinburgh, was laid on Tuesday, by Duncan Cowan, Esq., of Beeslock. Mr. Cowan stated that the cost of the new edifice would be £2,050, of which there had already been subscribed £1,814, and £1,004, s. paid up. The new edifice, which will occupy a site of much beauty, in the vicinity of fine natural scenery, will, when completed, be a great ornament to the neighbourhood in which it is to be placed. Its proportions will be handsome, its style of architecture in keeping with the locality; and a steeple of one hundred feet in height will give to the building an elegant and distinctive character. The church will be seated for 500 persons. The design of the edifice is taken from plans furnished by Mr. Frederick Thos. Pilkington, architect.

**ST. CUTHBERT'S, DARLINGTON.**—The faculty enabling the commissioners appointed to carry out the work of restoring the ancient and fine old parish church of Darlington, to commence operations, has been received. The subscriptions now amount to £3,309 12s., which will more than cover, according to the estimate of Mr. George Gilbert Scott, the architect appointed to make the alterations, that portion of the work which has been determined to carry out immediately. The estimated sum is £3,350, comprising £1,550 for restoration of building, and £1,700 for re-paving. The total estimate to put the edifice in thorough and substantial repair, as well as to make it permanently safe and secure, amounts to £6,300, but the difference between the two estimates is for work which will either admit of some delay, or has been abandoned—perhaps, for ever, but certainly for some considerable period. With a view to promote the object, the Architectural Society and Archaeological Society of Durham and Northumberland have determined to pay a visit to Darlington on Tuesday, the 3rd of June, and Mr. Scott has consented to read a paper on the prominent architectural features of the building; the Rev. J. H. Pearson, the incumbent, and Mr. Longley, of Darlington, and Mr. Longley, of Gateshead, and Mr. Abbott, of Darlington, to exhibit and speculate upon some ancient coins in their possession. A number of the members of the Yorkshire Society are expected to join them.

**MONUMENT IN YORK MINSTER.**—A very elegant Gothic mural monument is now being erected in the south aisle of the choir of York Minster, bearing the following inscription:—"To perpetuate the Remembrance of Two

Members of this Cathedral Church, departed to the mercy of God: William Mason, Canon Residentiary, and Rector of Aston, whose poetry will be his best, enduring monument; born, 1724; died, 1792; and his nephew, William Henry Dixon, Canon Residentiary, and Vicar of Bishopstoke; born, 1783; died, 1854; this Monument is erected by Mary Ann Dixon, widow." This monument has been executed by Skidmore, of Coventry, whose screen in metal work for Hereford Cathedral forms so prominent and attractive a feature in the International Exhibition. The monument now being placed in York Minster, in the same style of workmanship, and will gate, or at the west end of the church for the proposed monument.

ST. JOHN'S EPISCOPAL CHURCH, EDINBURGH.—A stained glass window, of great beauty, both in the design and in the colouring, has just been erected in this church, by Mrs. Gray, of Carsegrange, in memory of her deceased husband. There are three distinct subjects represented on the window—the crucifix, surrounded by vine leaves and bunches of grapes (emblematical of Christ the true Vine); an eagle, of the same design as that in Merton College, Oxford (emblematical of the Lamb of God, that taketh away the sin of the world); and (what forms the chief picture on the window) the proclamation of the "good tidings of great joy," by the angels, to the shepherds, on the plains of Bethlehem. The window was executed by Messrs. Chance, of Birmingham.

WALBORN.—The laying of the first stone of the chapel-of-ease at New Walborn, took place yesterday (Thursday) afternoon, Mr. Young, the Mayor of Walsbach, performing the ceremony.

WIMBORNE.—The Baptists of Worcester have purchased, for 2,000 guineas, some property in Nicholas Street, in that city, for the site of a new chapel.

MELBOURNE.—The *Melbourne Herald* says that "the Wesleyan Methodists have built for themselves the finest ecclesiastical structure in Melbourne—a cathedral-like structure—at a very large cost."

EGREMENT CHURCH, NEAR LIVERPOOL.—Mr. Henry Jefferson, of Springfield, has put three large memorial windows, of stained glass, in the east end of Egremont Church, in affectionate remembrance of his late wife. Each square shows some particular incident of our Saviour's life, from his birth to his ascension. These, together with four windows of stained glass, which Mr. McCallan put in a few years ago, give the church a rich appearance. The stone work, which is very elegant, was executed by Mr. W. Ellcock.

RESTORATION OF CHICHESTER CATHEDRAL.—Since the spring weather set in, the work at the cathedral has progressed rapidly; of the four piers which are to support the spire, one has already reached a height of fourteen feet from the ground level, and the other three are nearly so high. By the present contract, Mr. Bushby was required to have all four of the piers fourteen feet high by the middle of June, but they will be completed before that time. This looks very hopeful, more especially as the way in which the work has been done has called forth the highest encomiums from Messrs. G. G. Scott and Slater, the two architects. In the course of a few days it will be settled who is to enter the contract for finishing the work for carrying the spire up to its original height.

GREAT SWATON.—The church at Great Swaton, near Northallerton, Yorkshire, has been reopened, after having been closed for about three quarters of a year, while undergoing a work of restoration, at a cost of about £800. The restoration has been effected from plans by Mr. G. E. Street, of London. The open roof has been slated with green, blue, and red slates alternating, and surmounted on the chancel, nave, and porch with a cross. The nave, paved with blue stone and red tiles at the corners, is provided with handsome open seats of pitch pine, varnished, &c., about 3 ft. in height. All the sittings have shelves in front, whereon to place prayer and hymn books, &c. The pulpit is entirely new, of fine limestone, mounted with a very handsome brass desk. The old Romanesque font, with its massive oak cover, is placed on the south side of the western end of the nave. The chancel, restored entirely at the expense of the Rev. M. Anderson, jun., is paved with Milton's tiles, and has a handsome domed roof. The stalls, which are of oak, are fitted up with good taste, and the chancel is enhanced in appearance, having a very handsome and ornamental screen. An oak lectern, from which the lessons will be read, is placed outside the screen, and the altar rails, with their handsome green cloth, have a super-alloy of black marble, from the Isle of Man. The reredos, both beautiful and massive, is of marble, inlaid with alabaster, with a Maltese cross of coloured marble in the centre. The east window is of richly stained glass, being a memorial. The old church had no vestry, which was found to be a great inconvenience. That is now obtained by a small and comfortable vestry, built on the north side of the chancel, over the doorway of which is a handsome scroll, with an appropriate inscription.

OPENING OF TRINDAGHILL BAPTIST CHAPEL, ROATH.—On Thursday this place of worship was opened. The new structure, which is of a very pleasing and commodious character, will cost about £3,200, a great part of which is collected; and the contractor has promised with his donation of £110, to add 5 per cent. on the amount contributed by the services of the managers are anxious to do the best they can towards clearing the debt. Messrs. Halshorn and Pitt, of Newport, were the architects, and Mr. Storey, of Cardiff, the builder. The chapel is situated between Cardiff and Roath, and is in the early English Gothic style of architecture, having a transept and nave of equal dimensions, being 70 ft. by 44 ft. There is room for 1,100 persons, and the seats are very commodious as to room, &c. There is no pulpit, but a semi-circular platform, erected after the

manner of the one in Mr. Spurgeon's Tabernacle. The baptistry, which is in front of the platform, and is raised about 3 ft. above the chapel floor, is of Bath stone, with marble seats inside.

PROPOSED ENLARGEMENT OF ALL SAINTS' CHURCH, PATERNOSTER, YORK.—It is proposed to extend the whole width of the east end of the church to the extremity of the present flagging, viz. 9 ft., and to give up to the board of health an equal number of square feet of the churchyard on the south-east side of the church, in order that Coppage might be widened. Any additional ground required by the Council for the further widening of Coppage, or at the west end of the church for the proposed Corn Exchange, the rector intimates would be sold to them at £1 a square yard, and he also claimed the right of selling the ground now used as a footpath between Coppage and High Ousegate. The proposed enlargement is opposed, not merely because it would produce an obstruction and a curtailment of the space now used for the corn market, but also on the ground that the church is already too small to accommodate the worshippers, who are expected to attend the above place of worship. There seems to be a strong feeling in the parish against the proposed enlargement.

## GENERAL ITEMS.

STATE OF LORD MACAULAY AT CAMBRIDGE.—We understand that Mr. Woolner has been selected to execute the statue of Lord Macaulay, which is to be placed in the library of Trinity College, Cambridge.

MONUMENT TO THE LATE LADY JOHN MANNERS.—A monument, which is said to have been admirably executed, has been erected by Lord John Manners, in Rowley Church, near Haddon Hall, in memory of his lady, who died on the 7th of April, 1854. In style it resembles the middle and Gothic, having upon the figures of male and child, enveloped in ample drapery, in a recumbent position, with an angel at the head, apparently smoothing the pillow. These figures, with the carved capitals, panels, &c., are of white statuary, the columns of russet marble, and the other portions of Darley Dale stone. The monument is placed in the centre of a mortuary chapel erected specially for its reception, the floor of which is inlaid with rich marble, thus displaying the circle and the cross emblematical of "Eternity and Religion." The whole has been designed and executed under the superintendence of A. Salvin, jun., Esq. The figure was executed by Mr. Calder Marshall, R.A., and the sculpture and architectural part of the monument by Mr. J. Forsyth, of Hampstead Road, London. The beautifully inlaid floor was executed by Mr. A. Tomlinson, of the Museum, Bakerwell, and the design and the materials employed—the Derbyshire red and grey marbles—give the interior a rich effect. The whole of the materials used are from Derbyshire. As a work of art it will doubtless be an object of interest to the tourist when visiting Haddon. Lady John is the only member of this noble family interred in this neighbourhood for upwards of 200 years.

THE MR. NICOLL MONUMENT.—It is proposed to erect a monument to the memory of Mr. Nicoll, the late steward of the Earl of Arundel. The form for commemoration intended is that of an obelisk, to be erected in Altham Churchyard. It is not expected any difficulty will be found in raising a sum sufficient to accomplish so desirable an object.

THE STURGE MONUMENT, BIRMINGHAM.—Wednesday next has been fixed upon for the inauguration of the memorial statue of the late Mr. Joseph Sturge, at Five Ways, Birmingham. The pedestal is now complete, and in the course of a few days the central and subordinate figures will be placed. It was intended that Lord Brougham, a fellow-worker with Mr. Sturge in the anti-slavery cause, should have presided at the ceremony, but his lordship does not expect to be in England at the time. The borough members, Mr. Colclough, Sir J. Pakington, Mr. Addeley, and others are expected to be present.

PRINCE ALBERT MEMORIAL AT OXFORD.—The fountain in St. Giles, Oxford, with a statue of the Prince Consort substituted for King Alfred, has been given up; and at a public meeting it has been resolved to add a new wing to the Radcliffe Infirmary, to be called the Albert Wing. There appears to be £3,000 in hand for the purpose, and half as much again is required, the raising of which will constitute the memorial.

DEMOLITION OF THE MARTIN'S CHURCH, OXFORD.—A party of Royal and Indian Engineers have commenced the demolition of the old martello tower—erected in the reign of Charles I. at Gillingham, to protect the entrance to Chatham harbour—to make way for the proposed enlargement and extension of Chatham dockyard. The tower is of great strength, and will be destroyed by means of heavy charges of gunpowder.

THE HEADING OF QUEEN'S COLLEGE, OXFORD.—The protempore notice to enquire the authorities to seek counsel from the ratification of the City for the malicious burning of the college have been served on the parties deputised by law to receive them. The estimated value of the property destroyed is £7,060, of which £5,000 is claimed by the commissioners of the Board of Works for the injury to the building and the destruction of public property, and £2,060 by the professors and students, as the value of the personal property belonging to them and consumed in the burning of the college. The Senate Committee on the Sewage of Towns have agreed to the following first report:—"1. That careful and exact experiments are necessary to elucidate the agricultural value of sewage, and the best mode of applying it. 2. That such experiments have been carried on at Rugby by the commission appointed to inquire into the best mode of distributing the sewage of towns, and applying it to beneficial and profitable uses. 3. That the results of these experiments shall be continued during the present year."







## EUSTON AND CAMDEN.

AMONG the tens of thousands of foreign visitors whom the wonders of the International Exhibition will attract to London during the present summer, there will undoubtedly be many who take an interest in the development of the railway system, and those who wish to learn of its prodigious growth in England, cannot do better than pay a visit of inspection to the Euston Square and Camden Stations. We, who are constantly in presence of the wondrous results produced by the locomotive and the rail, are apt to take them for granted, or at least without comment. The invasion of the metropolis by the "Steam Horse" has, during the last quarter of a century, produced changes, not only in the physical features of the metropolis, but also in the manners, customs, mode of living, and even in the thoughts of its inhabitants, which are almost incredible. For a century previous to the year 1834, stagnation was the order of the day; but then came the locomotive into London, and all was changed. It is singular to note the obstinate pertinacity with which the introduction of the great reformer into England was opposed. Before the locomotive could proceed on its mission of civilisation, its parent, George Stephenson, and his condutors, were compelled to run the gauntlet of ridicule, detraction, and slander, and there are many men of eminence still living who expended lavishly money and eloquence, in obstructing the projects of the great railway engineer.

No doubt the obstructives were, many of them at least, conscientious in their opposition to the introduction of the mighty improvement; but the lesson they have learnt should teach them, and most likely it has taught them, to be less confident, and more cautious in giving opinions adverse to mechanical inventions, and scientific discoveries. As a specimen of the argument and declamation by which the railway schemes of George Stephenson were, in the first instance, met and assailed, let us take an extract from a speech made before a Select Committee of the House of Commons in 1826, by Mr. Harrison, then an eminent parliamentary counsel. "Every part," says he, "of this scheme (the Manchester and Liverpool Railway) shows that this man (George Stephenson) has applied himself to a subject of which he has no knowledge, and to which he has no science to apply."

"When we set out with the original prospectus, we were to gallop at the rate of twelve miles an hour, with the aid of the devil in the form of a locomotive, sitting on the first horse. But the speed of these locomotives has slackened. The learned engineers would like to go seven, but he will be content with six miles an hour. *He will show that he cannot go six.* Practically, or for any useful purposes, they may go something more than four miles an hour. The wind will assist them; any gale of wind which would affect the traffic on the Mersey, would render it impossible to set off a locomotive engine (!, either by poking the fire or keeping up the pressure of steam. A shower of rain retards a railway, and a snow storm entirely stops it." We need not at this time of day pause to comment for a single moment on the remarks of Mr. Harrison. They are curious, and they serve to show the ebb tide of scientific and mechanical knowledge which then prevailed. The flood tide has risen since, and Mr. Harrison has enabled us to ascertain the depth from which the tidal wave has sprung.

The greatest possible obstruction was offered, in 1831, to the proposition for forming a line of railway from London to Birmingham, and from schemes made in both Houses of Parliament, and pamphlets published out of them, it would be easy to cull passages at which their living authors would blush, and our readers would heartily laugh. Those speeches are chronicled in Hansard, whilst the bulk of the pamphlets have gone to the butterman, and there they may rest.

It is time for us to return to Euston and Camden. When the North-Western Railway was designed, it was intended that its metropolitan terminus should be at Camden Town, but a favourable opportunity offered itself, and the Company purchased fifteen acres of ground at a point nearer to that great artery—the New Road. This newly-acquired acre became the site of the Euston Station. It is only to be regretted that the noble gateway or prologue of the latter, does not immediately face the thoroughfare named. This gateway cost no less than £30,000, and the architect who designed it fondly hoped that the station itself would be formed in accordance with its Titanic style of architecture. The station, however, is exceedingly commonplace, and its great entrance hall is appropriately ornamented by a fine statue in marble of George Stephenson. At this point, we need not say, except to visiting friends, the passenger traffic of the line is managed.

In a very few minutes, we had almost said seconds, the trains from Euston reach Camden, and here a perfect wilderness of lines converge and diverge. Mr. Robert Stephenson, not without some difficulty, induced the directors to purchase 30 acres of land at this spot, and well was it for the interests of the company that his counsels were adopted. The whole area is occupied, and the cry is still *More, more*. It may truly be said indeed of Euston, and its dependency, Camden,

that they form the greatest railway port in the world. It is the principal gate through which flows and reforms the traffic of a line of railway which cost more than twenty-two millions sterling, which annually earns more than two millions and a half, and which directly employs from ten to twelve thousand hands. Of course the number of persons to whom indirectly it gives employment is incalculably large. In mines, mills, factories, and iron-works, in steam and in coasting-vessels, workmen or workwomen are kept incessantly busy by the traffic of Euston and Camden. They form the railway metropolis of Great Britain, so to speak. The interlacing connections of other railways have now become so numerous that it is possible to reach any part of England or Scotland, from Land's End to John O'Groats, from this very point of departure.

It is some few years since the provision made for the accommodation of passenger and merchandise traffic, on the North-Western Railway was estimated at the following amount of "rolling stock," and, with the exception of the first item named, it would at this moment be fair to add thereto one third more.

- 1 State Carriage.
- 555 Locomotives and Tenders.
- 404 First Class Mails.
- 420 Second Class Carriages.
- 342 Third Class.
- 245 Post Offices.
- 212 Carriages, trucks for letters and newspapers.
- 201 Guard's Breaks.
- 200 Horse-boxes.
- 7385 Goods wagons.
- 14 Trilley's.
- 1155 Crib rails.
- 5150 Shunts.
- 102 Cart-horses.
- 41 Patent breaks.

At Camden there are extensive workshops for the manufacture and repair of carriages, trucks, &c., but at the Wolverton works the locomotives of the line are for the most part made and repaired. When our statistics were obtained, the passenger carriages afforded eleven miles of seat room, or sufficient accommodation for 40,196 persons! The loading surface—that is to say, the area of truck-room—is extensive enough for the conveyance at one time of 40,000 tons. The annual consumption of gas at Camden equals from six to seven millions of cubic feet. There are sheds and stables which cover a space of 150,000 superficial feet, and the platforms to receive goods from railway trucks on one side, and wagons on the other, occupy 30,000 feet more.

It would be impossible to convey an idea of the miscellaneous character of the merchandise and materials which is every day and night arriving at or departing from Camden. The heaviest forgings and castings from the various iron-works of the kingdom are constantly to be seen at the heels of the "steam-horse," together with coals, timber, machinery of every kind, and last, though not least, truck loads of cattle, destined to supply, in the form of beef or mutton, the cravings of the inordinate appetite of London. The incessant comings and goings of trains of interminable length, and charged with every imaginable commodity, form one of the main wonders of Camden, and those, therefore, who wish to gain some insight as to the industrial activity of the people of England, can scarcely do better than spend an hour or two at this great station.

The extraordinary line of railway, named in the first instance the Docks Junction, but now rechristened the North London, is a great contributor to the never-ending bustle of Camden. Communicating as it does directly with the East and West India and the Victoria Docks, it bears to Camden, *en route* for every district of the kingdom, the productions of all quarters of the globe, and is the medium for exchanging for them the manufactures of this country. Those indeed who are observant of the activity, as regards goods traffic—to say nothing of the quarter-hour passenger train—on this tributary of the North-Western Railway, and its constant interchange of goods with the great docks aforementioned, will readily agree with the inscription on the south-east transept of the Exhibition: "Each climate needs what other climes produce." Among the list of "Lions" which the coming hosts of visitors may jot down in their note-books for inspection, they will not do wrong in including Euston and Camden.

Taking the train at Fenchurch Street, and looking for Hampstead Road, three-quarters of an hour or so will suffice to deposit the tourist at Camden. There is another attraction, too; the real lions of London—in the Regent's Park Zoological Gardens—are within a quarter-hour's pleasant saunter of Camden.

## INSURANCE OFFICES IN MANCHESTER.

IN our larger cities and towns of importance, we find that the offices of the numerous Insurance Companies form very noticeable

features in the architectural works of the place, and contribute in no small degree, by their richness, to render the neighbourhood in which they are situated more attractive and important. Generally speaking, these buildings are carried out in a liberal spirit, and the architect is in most cases enabled by the money placed at his disposal, to design an edifice which shall possess sufficient attractiveness and beauty to stamp it as an establishment of the first class. There is perhaps no class of buildings on which so much taste is bestowed as Insurance Offices, and none which in number, size, and ornamentation add so much to the appearance of our towns. So well is this known, that persons accustomed to travel in England seldom fail to look for them among the principal public buildings of our cities, and those, in particular, who are interested in the architectural progress of the country, are well aware of the prominent position they have taken and the great variety of examples which they present of the taste of our modern designers. In all directions they are springing rapidly into existence; some possessing attractions of no common order, while others, on the contrary, are miserable displays of ugliness, and may be classed with the numerous abortions which are so rapidly accumulating on every side. Want of money is a complaint which almost every architect makes, with an earnestness that is quite refreshing; and we should be wanting in politeness were we to suggest that in many instances an increase of funds at his disposal, instead of furnishing him with power to add to the beauty of his work, would only aggravate the evil, by inducing him to crowd a façade of a bad design with a superabundance of ornament. Yet this is really the case, and in many of the buildings erected by Insurance Companies these remarks are fully borne out by the lavish expenditure of money on misplaced and ill-directed ornaments, which could have been well spared, and their cost saved. But on the other hand, liberal supplies to men of ability are profitably invested, for by such means they are enabled to impart an increased richness to their designs without in any way lessening their beauty or destroying their purity. The spirit of rivalry existing between the different Insurance Companies urges them to erect offices which shall be superior to those of their rivals, and, therefore, in most cases, the architect is not bound by pecuniary fetters, but has at his command ample means for the erection of an imposing building. It is somewhat strange that this emulation among Insurance Companies has not manifested itself in Manchester. The desire of excelling and of producing richly ornamented and handsome façades fit to stand side by side with the magnificent warehouses which are scattered over the manufacturing metropolis, and which so totally eclipse the warehouses of any other town or city in England, is manifested in Manchester. The offices, however, at present occupied by the various Insurance Companies, are of the most common-place kind, and as designs they are unworthy of notice. In fact, nothing seems to have been attempted, and the majority of them are quite plain, and entirely destitute of any features of interest to an architect. Generally speaking, they do not form separate buildings in themselves, but are either a suite of rooms in a block of miscellaneous offices or chambers, or they occupy the first, second, or third floors over some of the principal shops; and, instead of trusting to the attractiveness of their architectural features, as in London and elsewhere, they seem to depend solely upon the magnitude of their sign boards with gigantic gilt letters, or on their wire blinds, rendered equally conspicuous. The situation, too, of some has been very ill selected, and instead of forming prominent objects to catch the eye of all, they are in many instances placed in back streets, unnoticed except by a few, and those few in all probability uninterested, and of the wrong class to swell their funds or increase their business connections. There is, perhaps, no city in which so great a number of Insurance Companies exist, or in which so many of their offices are to be found.

The Royal Insurance Company and the London and Liverpool Insurance Company have at last disturbed the lethargy which has prevailed so long in Manchester, and we do not doubt that the example they have set will speedily be followed by other companies in that city. Two imposing edifices in Upper King Street are rapidly approaching completion, and will, in a short time, be ready for occupation. They are situated very near to each other, and their relative merits may be readily compared. In the London and Liverpool Insurance Offices a classic design has been carried out from the designs of Mr. Walters, the architect of the Free-Trade Hall, and a number of other large buildings in Manchester. And in the Royal Insurance Offices, Gothic has been adopted, the architect being Mr. Alfred Waterhouse, who, it will be remembered, was the successful competitor of the Assize Courts, which are now being carried out from his designs, and under his superintendence.

The building erected for the Liverpool and London is the larger of the two, and has considerably more frontage. It is three stories high, the upper one being more ornamental than the two lower. Originality does not appear to have been attempted, except in the balcony in the third story, where we find a design of a decidedly Gothic character,

and though ingenious and good, yet it does not seem to harmonise with the other portions of the façade. The first story is rather plain, but substantial in appearance; the windows are square-headed and without architraves or pediments. In the second story the windows have arcitraves carried round them, but no entablature. In the third story columns of polished granite are introduced. Festoons of carved flowers and fruit enrich the frieze of the upper entablature, and a balustrade surmounts the whole. The walls are of light-coloured stone. The floors are fire-proof.

The Gothic design by Mr. Waterhouse is perhaps the best example of domestic Gothic in Manchester. The building is three stories high, with dormer windows above. There are two entrances, over which are small balconies. The windows are round-headed, but the hood moulds form a pointed arch, enclosing voussiers of different coloured stone—a light blue stone alternating with the light-coloured stone of the walling. The carving to the caps of the butt shafts in the first story is a little Byzantine in form and character, but nevertheless good. Coloured granite shafts are introduced in the upper stories between the windows, in one story coupled and in the other used singly. The caps of these shafts are more nearly approaching the early English style, and are considerably smaller than those in the first story. The dormers are surmounted by storks, or birds of a similar kind, which form a very agreeable termination to the gables, and have an appearance of newness, which is decidedly an improvement on the conventional forms so generally placed there. The arches of the doorways are of very good design, and some of the details are original and pleasing. The carving throughout is well executed, and a considerable amount of thought seems to have been bestowed on the design.

The exterior between the first and second stories appears to be the weakest portion, and wants distinctness; the carving around it is not sufficiently sunk. The words, "Royal Insurance Buildings," do not stand out boldly as they should in that position, and the foliage around the letters is rather spiritless. Taken, however, as a whole, the design is most satisfactory, and far in advance of most of the domestic Gothic which is generally produced. The cornice, chimney caps, strings, &c., are well treated, and the returns, or sides of the building, which appear above the adjoining houses, are built of brick, with broad stone bands, in such a manner as to be pleasing to the eye, though less costly and less ornamental than the front. This part is, in most of the modern works, entirely neglected, and frequently forms a disagreeable contrast to the better portions. The practice of throwing all the ornament into the elevation of an edifice facing a principal street, and leaving the other sides bare and unattractive, is one which all must condemn: yet so general is the fault, that it has become the rule rather than the exception, more particularly with those who do not understand their profession, or who look more to the five per cent. from their clients, than to the praise and admiration of a nation.

In Upper King Street can be seen some of the most interesting buildings in Manchester. First, the Town-hall, which is an example of the Grecian Ionic, well designed and well executed, and undoubtedly the purest classic edifice in Manchester. It was designed by Mr. Goodwin, and finished in 1825, at a cost of £40,000. The architecture of the Temple of Erectheus, at Athens, has been closely followed, and the quiet grandeur of the whole cannot fail to excite admiration.

Nearly opposite the town-hall is the Branch Bank of England, a massive building designed by Professor Cockerell, and completed about the year 1840. The style is Doric, though not in its Grecian purity. The effect of the whole, however, is rather imposing, and is decidedly in character with the use to which it is applied. The New Insurance Offices, of which we have spoken at length, add to the two important buildings, form a cluster of architectural works of great interest, not only on account of their size, but also as examples of the taste of some of the leading architects, at different periods, during the last forty years.

#### THE CHAPTER HOUSE, WESTMINSTER.

THE restoration of the Chapter House, Westminster, is of sufficient importance to justify our reverting to the subject this week. The present appearance of the Chapter House was, by Mr. Scott, aptly described as "something between a Methodist chapel and a warehouse." Its carved interiors have been shattered by its vaulted roof destroyed, its "twilight saints and dim emblazonings" are gone. Its windows are blocked up, and its wall-paintings almost obliterated; but eyes accustomed to the beauties of mediæval art, and minds which have pondered lovingly upon them, can recall the stolen graces, and recognise, although sadly, in those mutilated forms, art equal in purity to the best parts of the venerated Abbey. The form of a chapter house is fortunately such as to render its general restoration a matter of no great difficulty. The mouldings of the windows and of the vaulting, can here fortunately be accurately defined. The splendid pavement of encaustic tiles happily remains preserved beneath the

floor. The tracery of the stalls is sufficiently discernible, and we have, in the appointment of Mr. Scott, the best guarantee for the fidelity and care with which every operation connected with its restoration will be performed.

It is quite plain, however, that nothing can be done without funds, and the question to be settled is, where are the funds to come from. In ordinary cases the reply would naturally be,—from the Dean and Chapter. But in this case we have to remember that the Chapter House does not really belong to the Chapter. It was in Edward III.'s reign made over to the House of Commons, and was used for the deliberations of its members until the reign of Edward VI. An interest quite distinct from its architectural merit is thus inseparably attached to it; one which ought to touch the hearts of those who would not willingly see the only remaining building associated with our early parliamentary history disappear. Moreover, one of the conditions of the loan was that the "Government should keep it in repair." To succeeding Governments its ruin is mainly owing. They have lopped its beauties to fit it for their requirements as a Record Office. They neglected to preserve anything connected with it except the dingy papers which filled it; and even now, when the records are more commodiously housed in Fetter Lane, the Government retain possession of the building. To return it to the authorities of the Abbey in its present state would be a scandal and a disgrace to any ministry. To restore it as the Dean and Chapter have restored that portion of the Abbey entrusted to their keeping, would be but a simple fulfilment of the original condition connected with its transfer. In former times the undertaking would have been easily accomplished. A pious old monk, "a man of great sanctity and simplicity of manners," would have had only to dream—which they could do at a day's notice—that Peter, or Paul, or some other favourite saint, had pointed out this work as peculiarly worthy of the king's goodness. "There is a place of mine in the west part of London, which I chose and love, and which I formerly consecrated with my own hands, honoured with my presence, and consecrated with my miracles. The name of the place is Thorney; which, having for the sins of the people been taken to the power of the heathens, from rich and common poor, from chaste, low, and from honourable, has made despicable. This is let the king by my command restore." With such a dream Walsine persuaded Edward the Confessor to devote his future energies to the building. We live in different times. Monks will not see convenient visions, and kings would not be credulous even if they did. The pious zeal which did not scorn a lie, when it served the Church's purposes, is unknown to our ecclesiastics. They can only appeal to public opinion, and the appeal of the Dean and Chapter of Westminster is in this case backed by their own useful labours. They point to their own restorations when they ask the Government to put the Chapter House in harmony with the choir and the Chapter House for the building itself; they only demand the restoration of its beauties. They are not moved by any petty desire to sit in solemn conclave in their ancient house, but they wish to point out to Englishmen that one of their noblest architectural monuments, filled with associations of the highest interest, is rent and torn, and wasting silently away. The building "has become," as the Bishop of Oxford said, "a by long usage the property of the nation." Even in its dislocation it has preserved the nation's records, and deserves on that account alone some consideration at the nation's hands. Twenty thousand pounds—the cost of a complimentary embassy to attend a foreign monarch's marriage, which our nation has twice shewn about—would defray the whole bill. A fraction of even that sum at the head of a subscription list, would attract contributions from other influential and wealthy quarters, and ensure the accomplishment of the work. Mr. Hope put the matter in its true light when he said, "it was the Government who had originally destroyed and mutilated the building, and he did not see any reason why they should not be called upon to put the place in good tenable repair."

It is somewhat humiliating to know and to be told that such a scandal could not exist in France, that the Emperor would at once, of his own will, order its restoration, and especially so, when we reflect that the Commons' House, whose former connection with the Chapter House we seek to perpetuate, is the very power which, by its proud privilege of holding the national purse, prevents our doing so. A constitutional government may, as in this case, cause as a little inconvenience, but we can afford to suffer it. If the Government will not do the work, we have, in England, the liberty to do it ourselves; and this is just what we would have the public make up its mind to. Our faith in parliamentary sacrifice to art and tradition is not great. Our confidence in the architectural taste of Lord Palmerston and of Mr. Cowper is still less. Mr. Gladstone, with the best wishes, perhaps, in the world, would, we fancy, instinctively clutch the national money-bag, and plead poverty in a clever speech. From the Government we expect but little, if anything; and if the subject should be brought before Parliament, it would, we fancy, stir up all

the loud speaking ignorance in it. Every member desirous of shining as an economist, and of atoning for his indifference when a large grant stalked boldly past him, would open his mouth to smite the small man. Small wits would throw their little pellets at the church. The dissenting members would be raked together by some metropolitan representative, and the proposal to do so an act of simple justice and to preserve a national monument would be altogether obscured by the vast array of economical champions. We would therefore remind the committee of the Persian proverb, "to expect nothing, and thus escape disappointment;" to rely upon their own energies in awakening an interest in the venerable ruin; and if they cannot get the building restored by the Government, to obtain it unworsted from them.

The circumstance of the Chapter House—a Government building, it is remembered, only the Record Office—becoming year after year more and more dilapidated, without a shilling being voted to stay the ravages of time, or to preserve—except accidentally, as with the boarded floor—its many beauties, strengthens our conviction that there ought to be in England a Minister of Public Works, who should be not only responsible for the expenditure of the money voted specially by Parliament, but under whose charge the conservation of really national monuments should be placed. A small sum annually voted would enable him to assist occasionally in the preservation of many interesting relics of our old English architecture. For the want of such assistance, much has already been for ever lost to us, and much more has been injudiciously repared, and thus fatally ruined. In the hands of Mr. Gilbert Scott, the Chapter House and all connected with it, will, we know, be tenderly cared for. We sincerely hope that a sufficiency of funds will second his exertions.

## INTERNATIONAL EXHIBITION.

### THE PICTURE GALLERIES.

THE pictures by Turner in the International Exhibition are very inadequate to give a satisfactory idea of his varied and extraordinary powers as a painter. It is true that the objection may be met by referring the visitor to the South Kensington Museum close by, or to the Turner Gallery in Trafalgar Square, but neither of these can be separately, nor, indeed, were they brought together in one, would enable the general public and our foreign visitors to either appreciate Turner's peculiar talents, nor the bearing the gradual development of his wonderful genius ought to have upon the practice of progressive art. The selection of the pictures by him in the present Exhibition may have been guided, as we have said in our preceding article, by the desire not to confuse the unskilled by placing before them caricatures or eccentricities of the three schools, but our objection to the pictures which have been selected, is that they do not represent, beyond the mercenary style of composition, any distinct period of Turner's brilliant career; besides which these pictures are either so dirty or low in tone, as not to suggest even his extraordinary mode of depicting distance and atmosphere. It was well, no doubt, to avoid as far as possible renewing the impression that the works of Turner are to be judged only as incomprehensible daubs, and he, himself, as if he were a wonderful being, who had suddenly descended from the clouds well stocked with all sorts of fiery colours, which he smeared upon canvases for his own satisfaction, in a manner that no rational person could understand, and which it was very doubtful whether he could understand himself. The only way under these circumstances, to do him justice for good and rational intentions, whatever may have been his success in carrying them out, is to trace him, as regards his practice, from his earliest time. Turner commenced in the good period of English art, when the old masters were respected, and the principles laid down by Sir Joshua Reynolds were duly appreciated. The earliest efforts of Turner, when he had attracted notice, were like those of his contemporaries in water-colours, merely tinted drawings; the attempt to equal the force and power of oil-colour had not then been made. Many of his views were executed on coloured paper, the sky being represented by a little blue, the middle distance left with very little more than the general colour of the paper, and the foreground rather sharply accented with a touch or two of warm local tint. The effect thus produced would, at the present time, be considered poor and washy, but good judges would in all such works discover the indication of a great mind. If he sketched only a piece of rock with some water near it, and a bank for a foreground, there was always a broad massiveness, with a unity of treatment, that could not be passed without admiration. In course of time water-colour drawings made a nearer approach to oil pictures, and in the new practice Turner led the way, and continued at the head of the movement, until, finding that water-colours were too feeble to express his growing and lofty conceptions, he boldly took up the palette, without previous notice, and, although he was at in the beginning he soon became established as a leading painter in oils. From that time his wants increased with the development of his genius, and from what we see, it is but fair to assume, where he fails, or at least, where we fail to understand him, that known pigments were incapable of expressing his conceptions. Our purpose in giving this description of Turner's progress in art, is to suggest to most uncomprehending of his works what has, from the result of a steady progress, and the right method employed by himself and his contemporaries in art, advancing to a

brilliant and gorgeous display of colours, in which he left all competitors behind; but as his progress was gradually retarded, may be not in his most daring flights, he is perfectly rational to his highly cultivated perceptions, and may not the irrationality be with ourselves, in consequence of our own powers being neither so sensitively formed by nature, nor so highly cultivated by practice and study as his was? A broken twig will show an Indian hunter his way through the bush where, for want of the keen eye that detects it, the European traveller would lose himself and perish. So it is with some of Turner's pictures, and therefore they should be respectfully studied with the hope of finding the clue to the labyrinth, and not passed contemptuously by, as the wanderings of a madman, for, as we have suggested, it may be doubtful which of the two is entitled to the unenviable distinction—the painter or the spectator: at all events Turner was perfectly sane when he made his will and bequeathed his "Carriage" to his country on condition that it should be hung by the best land in the National Gallery. The Trustees need not have had it cruelly skinned by the picture cleaner to give Turner an advantage, because his superiority in every respect is apparent, we should think, to the least cultivated eye. In short, the pictures in the National Gallery, at the South Kensington Museum, and his water-colour drawings, not his oil pictures, at the International Exhibition, place him far above every other landscape painter that ever lived, in the ordinary sense of the term, and as a painter of ideal or mythological subjects connected with landscape, there is no other name, except Wilson, perhaps, that ought to be mentioned as a competitor in that branch of subject. Like Michael Angelo, Turner was a giant in art, and moderate geniuses become pigmies by comparison, the moment they are so rash as to remind us of either of them.

Melbourn, although somewhat retarded by an affected tone of colour—some of his figures appear nearly rolled up—is an artist of whom Englishmen may be proud, whether his figures or his landscape backgrounds be considered; besides which, as may be seen in the present Exhibition, he draws the nude with remarkable delicacy, grace, and purity. "Train up a Child" is really admirable, particularly in the tone and treatment of the group of grim-looking beggars, which, by the way, was no doubt the original of his fine picture, now at the Royal Academy, of the negro offering to sell a toy to a child that turns away alarmed. Leslie, in attempting breadth and simplicity of colouring, too often produces a boldness of rendering, which is not pleasant, but in this respect he may compare with Willem, the Belgian painter of the same class of subjects, although he never rises to story-telling. We think Leslie's "Laying at Rest" is a remarkably happy idea. In order to judge of the picture the reader should be referred to his paintings in the great room of the "Place de l'Hopital" for his "Adam and Eve" in the International Exhibition is a very feeble production, and, as a historical painter, the less said about West perhaps the better. He drew with firmness and vigour, composed with skill and learning, but his colouring has no sympathy with his subject; his heads are all individual and commonplace, and consequently the elevated character and expressive dignity essential to Scriptural subjects. De Louthborough, who was scene-painter to Garrick, had a fine perception of the muscular flexibility and tone development peculiar to the British seaman of his day. Hence, while his sea-fights are theatrically grand in their volumes of smoke, clouds of bellying canvas, and vivid explosions, if there was a boat's crew landing troops, or sailors clinging to floating spars, they have a breadth of bearing and a recklessness of manner that no other painter ever so completely realised as the many characteristics of the tars of old, and who won our great naval victories.

Stothard, the prince of designers, as he was called in his day, may perhaps defy competition among our foreign exhibitors for the fanciful treatment of his subjects, the facility with which he groups his figures, and not unfrequently the rich colouring of his designs. The quantity of work he may be allowed the expression, of his drawing is injured in some degree by its want of vigour in the general forms, and precision in the marking of the joints. He is slovenly sometimes, which arose no doubt from rapid designing for book-sellers, and the excellence of the engravers at that time, who could produce a very excellent plate from a very slight drawing. Stothard possessed an elegant figure, which he preserved in his sketch-book by idealising persons he saw in the streets, as a laborious Irish man with a basket on his head, and such humble subjects; but this practice was not conducive to the matter-of-fact exactitude required at the present day, and therefore the peculiar excellence of Stothard is not likely to elicit much approbation; but his contemporaries collected his designs as fast as they were published, and we are no doubt often pleased with the effect without thinking of the cause.

The fame of Wilkie is forever preserved by the number of his subjects as present him in his best style to the public. His admirable picture of the "Village Festival" stands unrivalled by any work in the foreign galleries, for its joyous fun and robust hilarity. Wilkie was formed on the Dutch masters, whom, in the early part of his career, he not only copied, but imitated for a living, and the legitimate use he made of the experience he acquired in that occupation, may be judged by the excellent subjects he produced, so entirely English that no trace of the Dutch can be traced. It may fairly be doubted whether his visit to Spain, and consequent change of style, will not prove more injurious than beneficial to his reputation as a painter. He certainly painted with more force obtained by powerful contrasts of light and shade, than before he quitted England; but the tone of colour and want of drawing, especially in his large whole-length portraits, which he painted on return, and became the fashion, show that humble subjects were much better suited to his talents. In then his drawing was all that could be required, but in his "Alfred in the Goatherd's Cottage"

he had displayed his deficiency for the historical composition; and in his Spanish subjects, when he attempted the modern style instead of his former feebleness, he only substituted the wooden for the puerile. The fines of his pictures painted in the Spanish style is the "Bleeding taking the Monkey-Boy to Prison," which has been extremely well copied as a miniature on an unusually large piece of ivory, to be seen in the large room of the foreign division. When we say the Spanish school, we allude to the art in the time of Murillo or Velasquez, for it is a remarkable fact that not one of the pictures by living artists in Spain sent to the present exhibition has the slightest resemblance to the style and tone of that early school, translated by Wilkie, and still cultivated by Harcourt, but on the contrary, they are assimilated to the modern mode of painting now prevailing amongst ourselves, and which seems to be the point to which all schools are directing their energies—namely the pursuit of realistic resemblance. Looking at the tendency of pictorial art generally, with its matters of fact, it is not difficult to see, at the present moment, it might be safely predicted, that those who live to see a similar collection of pictures to that now in the International Exhibition, at the end of another ten or eleven years, will find, as hero-worship is evidently on the decrease, political animosities dying away, and national convulsions becoming less frequent, that the higher style of art will yield to portraiture, domestic scenes, and landscape, and, as the extraordinary genius should disturb the equanimity of the pictorial mind, that the future displays on canvas of each nation will so nearly approach each other in style, subject, and treatment, that future critics will find little diversity upon which to exercise their acumen. We may, in support of this opinion, direct attention to the circumstance, that while foreigners are complaining that the English paint no historical pictures, with the exception of the French litterateurs—the Belgians take the lead in the higher branch genre art, have no picture in the International Exhibition more recent than the events which followed the abdication of Charles V. of Spain.

Returning for a moment to the works of Wilkie, we think, on such subjects as the "Village Festival," "Blind Men's Buff," and similar productions by which he obtained his fame, he stands unrivalled in the extent of his composition, the skill with which it was conducted, and the hearty homeliness of the prevailing sentiment, and in all of which it is well known that every figure was carefully studied from living models; but, with a few exceptions, those pictures painted in his Spanish manner will rather injure than increase his future fame.

#### ARCHITECTURAL ASSOCIATION.—MR. R. P. SPIERS ON ARCHITECTURE IN NORMANDY.

(Continued from our last.)

MR. SPIERS proceeded to say that he made Bayeux his starting-point for two short excursions to the small villages which lie north of it, and to the north-east part of the Calvados, which should direct his steps in search of simple Norman churches. The country is comparatively flat, and the small spires or towers serve as guiding landmarks to the route. On his first visit he left Bayeux in the north-west, in a diligence, stopping at Maisons, five miles distant. After a walk of four additional miles, he arrived at Etrehou, where there is a pretty little church, with a tower finely proportioned, and of the thirteenth century; but only the western facade of the original Norman church remains. At Villi there are no spires, but a small church; and Happain has an interesting western front, and is curious for having small arcades interlaced, forming a pointed arch by their intersection; this decoration which is on the tower is very interesting, the latter being probably of the ninth century. Collville-sur-Mer possesses a very pretty and most remarkable Norman tower; it is composed of six stories, the top being a square, and the sides being on each face with circular openings, and a feature which very rarely occurs. The spire is of later date, and the nave and choir are of the twelfth century. Vieuxville has a very elegant tower and spire of the fourteenth century; the church had formerly side aisles, and was more important than it is at present. Formigny has a tower of the thirteenth century, with a double-gabled roof—a form which, in his opinion, was rarely met with in England. The tourist was reminded, when visiting this village, by a large inscription on a public monument, that it was here the English sustained a great defeat, in 1450, the consequences of which obliged them ultimately to give up Normandy, which they had held since 1417. Caumont remarks, in his "Researches in Normandy," that the church here, as also those at Belleville and St. Laimant, has a side aisle on the north only. Louviers has a spire and tower somewhat resembling the tower of Angers, but being not so high, and the tower being a part of the Norman style, and the spire, which is a lofty structure, is seen for miles around. Azurites possesses a tower and spire of a somewhat similar character, but more pleasing in proportion. It was formerly a Norman church; but being restored, a doorway is the only feature of that style which remains. The church of Ecouleville is in the Transition style of the thirteenth century; the tower retains its primitive windows, but the southern wall has been rebuilt. The interior of the building, possessing, like that at Colleville, circular windows. The chapel at Juville, near Launay, is of the fifteenth century, and possesses some beautiful carving. The lecturer proceeded to say that he then returned by Bayeux, passing by St. Vigor, where there is a fine old abbey-gate. At Vieuxville there is a fine tower, but the building is in ruins; the southern facade has a rich doorway; and the tower, situated on the east, consists of four stories, the uppermost of which has a circular arch

pierced with two windows. The choir is of the thirteenth or fourteenth century. Villiers-le-Sec has a fine rectangular tower, with a staircase-tower, also rectangular, at the south-west corner, of the thirteenth century, and the choir belongs to the same period. The rest of the church is modern, and presents no feature of beauty. Tierreville has a church, with an ancient Norman doorway; the tower is of the fourteenth or fifteenth century. Bazeville, which is close to the last-mentioned structure, Mr. Spiers did not visit; but Caumont says it possesses the best-proportioned tower in the district, and is principally of the thirteenth century. The Chateau of Crevilly is exceedingly interesting, and very picturesque; and Caumont says it is one of the most strongly fortified chateaux in Normandy.

The whole of the ground-floor, which is of the twelfth century, is vaulted with circular ribs; the rooms are very low, and serve for vestibules and entrance. The upper parts of the building are of the fourteenth and fifteenth centuries, and the facade of the sixteenth. The ancient moat has been filled up, and a garden planted in its place. The portcullis and remains of a drawbridge blocked up, may be seen at the building. Brece has a fine entrance-gateway, of the sixteenth century; but the old chateau exists no longer. St. Gabrielle has an interesting Norman chapel, of the eleventh century, now under the care of the French Archaeological Society; here are also an ancient priory, of the fourteenth or fifteenth century, and a tower, nearly in ruins. The gateway of the priory, and other portions of the building, have been converted to the uses of a farmyard. The lecturer, in continuation, said he visited Esguay, where there is a small church, partly of the thirteenth century, the tower and spire having been lately added. There is a fine chateau, of the seventeenth century, but he had not an opportunity of visiting it. Most of the villages above referred to are about four miles distant one from another. The women living in them are chiefly occupied in the lace manufacture, for which they receive but poor remuneration, a good workman being paid not more than a franc a day. From Bayeux Mr. Spiers said he proceeded direct to Cherbourg, the entrance to which is extremely beautiful—its hills, railway, towers, fort, trees, harbour, and shipping forming a pretty picture. He visited the port, where he saw much that is interesting in naval architecture; and inspected the museum, which contains plans of Cherbourg, as it was ten years ago, and as it is now. Leaving Cherbourg, he proceeded to visit other places, amongst them Carentan, which has a very fine church; unfortunately the nave and towers are very low, or it would be one of the finest structures in this district. St. Lo is an attractive town; the principal part of it is built on an eminence, the cliff rising almost perpendicularly by the side of a broad canal. It was formerly fortified, and most of the ancient walls remain. The Hotel de Ville, an edifice of modern construction, tells well its destination. The large church of Notre Dame has a fine facade, with two towers, but presents some curious irregularities, said to have been intended by the architect. The structure dates from the fourteenth century, the two towers are not alike, and what is called the central tower is not in the centre. The tower on the right has a pointed arch, that on the left a circular one, though not Norman. There are constructional arches turned over the windows above the entrance doorways, which are dissimilar and of different widths. In the interior no two walls are parallel, and the choir is not in the same axis as the nave. There are some singular arrangements of the chapels round the choir. The most beautiful feature of the building is an exterior stone pulpit, with canopy of the thirteenth century; he believed there was only one other of its previous to that period existing in France. There were not many in England, he thought; he knew only of one, which was at Magdalen College, Oxford. The Church of St. Croix, of the twelfth century, which is now undergoing a complete restoration, is, or at least was, a very interesting structure, presenting a complete, though small, beautiful Norman erection, with capitals. It formerly had a nave and two aisles, with circular rib vaulting, and a small circular chancel. The church not having been sufficiently large, was placed for alterations, under the care of an architect, who has pulled down the chancel, added another division to those remaining of the nave, and put an additional side aisle, with a tower for the centre of the south facade, making a kind of facade of his own. The old part of the church has been heightened, by removing a vault, adding a triforium, and doubling the height of the original clerestory. By the side of this church are the imperial stables of St. Lo, kept up by the French Government for the improvement of the breed of cavalry horses, and preserving the Norman manner. Here he found about a hundred animals, including a few fine Arabians, and six or seven English race horses. There is a well-constructed roof in the manege or riding-school. At St.

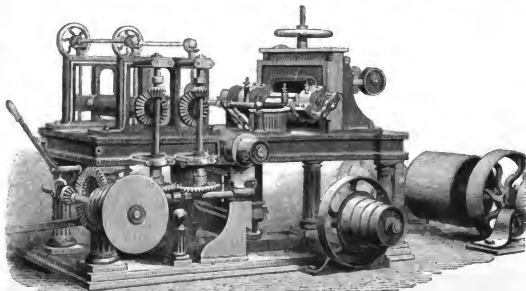
are to Lobe found several very fine old wooden houses, two of which, situated near the cathedral, and of the fifteenth century, are in an excellent state of preservation.

There being no railway south of St. Lo, he took the diligence and proceeded to Coutances, the cathedral of which, of the thirteenth century, is remarkably interesting, and is perhaps the only cathedral in France which preserves the same style throughout, having been commenced and finished by the same architect, and within a period of about eighteen years. The style is Early English; he said Early English advisedly, for it quite differs from other French cathedrals, except perhaps of Bayeux, and resembles our own English examples. It possesses two towers and spires on the facade, and a large central tower, which, as Mr. Ferguson, in his Hand-Book remarks, "requires only the crowning spire to make this group of towers equal to anything on this side of the Channel." The effect of the interior of this tower is very striking from the nave. The exterior of the choir, as seen from the Bishop's palace garden is insipid, like the choir of Bayeux. There is another church, St. Pierre, which, like the cathedral, has a central tower at the intersection of the nave and transepts, and is a unique example of a central tower of the sixteenth century (Italian Romanesque), at least for its size and beauty. There is only one tower on the facade of this church, and it is of the sixteenth century. St. Nicolas is a singular church, in which he was mistaken as to date. He had put it down as a thirteenth century building, and a beautiful specimen of its class, but an architect of the town assured him it was built in the last century, a statement on which he did not place implicit reliance, however, for the structure had Renaissance pendants in the aisle round the choir, which seems to be of the sixteenth century. There are some beautiful encaustic tiles, in perfect preservation in the chapter house of the cathedral. The town itself possesses no other architectural curiosities, the houses being for the most part built in plaster. The stone of which the cathedral was built came from Caen. There are many picturesque views from the town, which is built on an eminence. From Coutances he returned to St. Lo, and thence went on to Caen; stopping, however, on the road to visit Bretteville and one or two other villages on the route. Bretteville church has a choir of the thirteenth, and a tower of the fourteenth century. Norrey possesses a most interesting and very rich village church; it has a simple nave, transept, with chapels annexed, and a choir, with side aisles and two chapels attached. On the north side is a very elegant porch of the thirteenth century, and the nave is of the early period of the same century. The sculpture in the interior round the side aisles is extremely beautiful, and a good type of the fourteenth century. The pointed arches separating the choir from the side aisles are carried on twin circular columns. There exist in the building two stone altars, the tables resting on a solid triangular block, and the corners being supported by small columns. He next visited Cherx, the choir, transept, and chapels of which are of pure Norman, and the choir is decorated with arcades. The church at Moven dates from the twelfth century, the exterior walls are decorated at a height of eight feet from the ground, with blank arcades continued all round the building, which has a fine western doorway.

(To be concluded in our next.)

#### COMBINED MACHINE FOR PLANING, TONGUEING, &c.

MESSRS. POWIS, JAMES, & CO., exhibit in Class VII. in the western annex of the International Exhibition, a combined machine for planing, edging, tongueing, grooving, thickening, and moulding. The



machine operates upon all four sides at one time, and although so simple in construction, it will do all the work that any ordinary planing machine can do; likewise, having a variable feed, it is well adapted for every class of moulding, large and small. The manner in which the pressure is applied to the feed rollers, gives a great facility when changes are required, to suit the various classes of work. This machine is capable of doing from the deck plank to the most delicate moulding. The enter heads being all forged solid on the spindle, there is no fear of their flying off, and at one glance it may be seen that free access is given to all working parts. The machine will take in 12 by 3.

#### MR. G. A. SALA ON THE INTERNATIONAL EXHIBITION BUILDING.

AT the recent meeting of the Society of Arts, when Mr. Hawes read his excellent paper "On the International Exhibition of 1862," Mr. G. A. Sala said, as one of the public, he might be allowed to say a few words on an essentially public question. With regard to the contents of the Exhibition, he had viewed them with satisfaction, wonder, and admiration, but with respect to the building, he might as one who had given some attention to art, say a few words. Mr. Nelson had expressed the building as a national disgrace; he (Mr. Sala) did not consider it a national disgrace, but a national mistake, and for this reason: It would be in their recollection that in 1851, all eminent men as architects and designers were called upon to send in plans for the Great Exhibition, and they all recoiled what hideous, monstrous, and abnormal designs were sent in on that occasion, and he remembered how his eyes were horrified by some of these designs. These designs were, however, common-sense things, but it occurred to Sir Joseph Paxton, by what he would term an inspiration of genius, to send in the design of the Crystal Palace of 1851. He repeated, that was an inspiration of genius, and that design threw far into the shade every other architectural plan submitted to the commissioners; but it was due to the architects of the country to state that whilst the design of Sir Joseph Paxton was a marvellous combination of iron and glass, it was common-place in its form, and, as originally conceived, presented a resemblance to three packing-cases piled one upon the other, until the late Sir Charles Barry added the transept, and that addition made it the beautiful thing it was. As regarded the Exhibition building of 1862, he considered that various errors had been committed. The building was certainly not magnificent; indeed, in his opinion, it might almost be called hideous. The picture galleries certainly were light, commodious, and spacious; and albeit he agreed with Mr. Nelson that there was a want of smaller adjacent apartments, in which the cabinet gems could be displayed with advantage, instead of being lost amongst the mass of larger pictures, he must say the picture galleries of the Exhibition were amongst the grandest and most magnificent features of the otherwise most unsatisfactory building. But in this error was committed. They did not expect perfection in the building, but they did expect a building which would equal, if it did not surpass, that of Sir Joseph Paxton. But did they go to work the right way to get a building which should either rival or equal the former one? Were the most eminent architects of the day consulted as to the building? As one of the public he was taken by surprise—not at the announcement that another Exhibition building was wanting—but that Captain Fowke had been appointed to construct it. If ever there was a dead don in a corner, it seemed to him to be that which was done by the Royal Commissioners, or by some one, he did not know who, some mysterious body, some conclave sitting in an underground building, meeting together, wrapped in robes of mystery, who said, "Fowke, and Fowke only, is the man." But he might be allowed, whilst briefly expressing the belief, the opinion of a not wholly unimportant section of the public, that the present building was an infringement of all the canons of good taste, to say that he did not think Captain Fowke was so much to be blamed for what he had done. What more could he do? He was doubtless an able officer of the Royal Engineers; but did the Society of Arts, a hundred years ago, have any objection to putting the pictures in that room? If Barry had been Barry, R.E., instead of Barry, R.A., would he have been asked to paint these pictures, representing the progress of the arts and sciences? That mysterious council which he had referred to be thought themselves that a Royal Engineer officer was an artist; they were led away by sundry sketches by Captain Fowke—probably prepared at Woolwich—for testing the National Gallery inside out—and that body fixed upon him. He committed a national mistake, but, however, a national disgrace. That might be repaired by the speedy demolition of the building, after the purposes for which it was unfortunately erected had been served, or else by its conversion to some other useful commercial purpose. He would conclude these few remarks by expressing his admiration of the contents of the Exhibition. His opinion was that the contents of that Exhibition were not a national disgrace, but a national honour, and likely to conduce to the prosperity, the glory, and the honour of England.

#### INTERNATIONAL EXHIBITION.

NOVELTIES FROM COAL, IN GAS AND LIGHT.

NOVELTY? where does it really exist? Egyptian children, three thousand years ago, amused themselves with marbles and balls. The ancients utilised gold, iron, &c., and, in the instance of copper, hardened it for tools to equal our steel, and coal, now unknown. The turning to account

coal and its products, particularly illuminating gas, has been left to this era. Within the crust of the earth there may be stored up another wonderful formation, the uses of which will be only unfolded to a future period and condition of mankind.

The twenty years elapsing between the first and next International Exhibition probably covers a period during which there will occur three changes in the raw material for making paraffine. In 1851, the paraffine candle exhibited was made from turf. The same material may now be shown by Mr. Young, Class II., Messrs. J. C. and J. Field, Class VI., and others, of blocks of paraffine produced entirely from coal, prove a considerable manufacture has been developed during the past ten years. In 1871, it is probable neither turf nor coal tar will be used for making paraffine, but instead, the lately introduced petroleum, or rock oil.

On the completion of the last century, the trade of Corewary was paralysed by every one appreciating the brilliancy and durability of foreign dyed silk ribbons. The many dazzling colours, now so universally admired, extracted from coal tar, on view in Class II., No. 606, &c., effectually remove doubt respecting the future splendour of British dyes; they can be equalled, but not surpassed.

For some years past steel has been superseding whalebone, once so much used, and now almost forgotten. Another change has commenced; the lately introduced rock oil of Canada, as well as coal tar—both of which can be manufactured to supply all oils hitherto obtained from the sperm whale, the oleaginous lined, and the volatile oil of the pine. The lubricating grease made from coal-tar does not become easily rancid, and is more generous when in contact with metals than that made from animals. With the aid of Dr. Davidson, and others, Classes I. and II., can be seen naphtha for making india-rubber, &c.; benzole, that will cause oil paint to dry as quickly as lime-water; lamp oil, &c., manufactured from Wigan and Boghead Canals, also from Newcastle coal.

Before the battle of Trafalgar, oil lamps lit the streets of towns at night throughout Europe. The comparative recentness of the introduction of gas illumination is almost full scope for originality. Changing to Class XIII., No. 2573, Mr. Sugg's case contains a photometer, exhauster, exhauster, alum, &c. The photometer is an apparatus first invented by Count Rumford, for comparing the lighting power of gases with candles, by placing a five-foot gas argand light and a burning candle in the separate compartments of a box with a division; all the inside of the box being blackened, excepting one end, which is to be white. The power of the respective light can be noticed on the white side, by drawing the gas burner gradually away, until the appearance of the shadows of it both lights are uniform. The simple law of light shows that the brilliancy produced by the burning candle and gas is proportionate to the square of their respective distances from the white side of the box. The late Baron Bunsen also invented a photometer, using a piece of white transparent cloth, and a gas burner, the gas burner being placed on each side. When the appearance of the opaque part of the cloth is same on both sides, then the difference of the distance of the gas burner and candle from the cloth will give the relative power of their lights. The patent photometer exhibited seems to be that of employing the inventions of Count Rumford and Baron Bunsen in a combined shape. The radiometer is an instrument for obtaining, by means of bromine, sulphate of copper, and caustic potash, the volumes of hydrocarbonic vapours, sulphuretted hydrogen, and carbonic acid impregnating coal gases.

Mr. Sugg also exhibits an exhauster gauge and an alum. The exhauster acts in the manner of a water force-pump, and the pressure of gas on the reservoirs is shown on a principle something analogous to the common barometer. Only water is used, which is forced up or drawn down a tube in accordance with the degree of pressure of the gas on water in a case, to which the tube forms a funnel. The rising or falling of the water in the tube is shown by means of a float on a dial.

The unsatisfactory character of the measures formerly in use for the sale of gas, drew the attention of the Legislature to the subject, and caused the passing of the "Sales of Gas Act." Formerly a variation from the true value of gas was as high as from 30 to 40 per cent., occurred. The Act referred to limits the range of error in gas meters to 2 per cent. against the consumer, and 3 per cent. as against the gas manufacturer. In providing an instrument by which the intentions of the Legislature, so far as the testing of meters is concerned, can be carried out, Mr. Glover has conferred a valuable boon alike on gas companies and on the community. In this meter, Messrs. Glover and Co. have introduced a new standard, the "Gas Consumers' Manual," which has just appeared, the national standard of gas measures are chosen, and another standard is introduced, capable of being applied to the verification of gas meters of every class, and as accurate as it is possible for human skill to make them. They have now been in use at the "Exchequer" above a year, and found perfectly adapted to their purpose. Messrs. G. Glover and Co. also exhibit a meter adapted for the photometer, remarkable for its simplicity and accuracy. In this meter, quantities of gas so small as to fill a cube of a cubic foot can be measured each second with precision.

The national standard gas measure consists of an oval formed brass bottle, capable of holding exactly five cubic feet of gas; when full, the gas is emitted into the meter to be tested by displacing the gas in the bottle with water. The arrangements skilfully devised for performing this simple operation by Mr. G. Glover, are one of the objects well worthy of careful inspection at the Exhibition. Another standard is the "Exchequer" meter, Class XXXI., No. 6,342, contains the first gas dry meter, as manufactured by the Dry Meter Company, in 1838-6. The cylinder or case of this meter is divided by a loose piece of leather, acting as a diaphragm, its

use being to separate the measured from the unmeasured gas. The measured gas is expelled from one side of the leather by the entrance of the unmeasured gas, which distends the leather from the opposite side. When the leather is distended to its limits, the valve changes, indicating at the same time. The reverse action then occurs, and the gas in the filled compartment is expelled by the gas entering the empty one. This is the principle of all dry meters. The dry meter company ceased to exist after losing nearly £100,000. The first successful dry meter is that patented by M. Deffies and N. F. Taylor in 1843. Mr. Richards also exhibits his own gas dry meter, and one invented by him in 1844. The description of meter here shown is that made by many of the dry meter manufacturers in the United Kingdom, the production annually being nearly 80,000.

(To be continued in our next.)

#### LABOURERS' COTTAGES, AND THEIR BEARING UPON ARCHITECTURE.

ON Tuesday evening a lecture was delivered in the theatre of South Kensington Museum, before the members and friends of the Architectural Museum, by the Rev. THOMAS JAMES, M.A., "ON LABOURERS' COTTAGES AND THEIR BEARING UPON ARCHITECTURE." The chair was occupied by the President of the Architectural Museum, Mr. A. J. B. HENSFORD, who, briefly introduced the lecturer.

The Rev. Lecturer said:—The lodging of our working classes in London and in the great cities is indeed a pressing question, but it is one still more removed from the sphere of art into that of social science, than the one which I have adopted; and so long as our wealthy Londoners care to remain contented with such high art as the 3-windowed houses of Harley Street and its compere afford, it would indeed be preposterous to think of applying any sense of the term architecture to the buildings destined for workmen and artisans. It is some hope, perhaps, for the miserably degraded condition of the domestic street architecture of London, that the best recent examples of urban building have been in city warehouses and St. Giles' Schools. Beginning at this end, it may surely in time force its way upwards, and shame our middle and higher classes, with their two or ten thousand a year, from burying themselves in the dingy walls of painted brick, broken only by those statuesque openings for limited light—which can only be explained to the intelligent foreigners, now so thickly congregating among us, as the nation's grateful memorial and perpetual tribute to the memory of the deceased Window Tax.

But while the difficulty of attaining good street architecture seems, judging from its rarity, almost insuperable, everybody supposes that the architect should build a Cottage. Just as everyone that he can write for the poor, so everyone thinks he can build for the poor; so little is required—so few the wants. You have only to take pen or pencil in hand, and the thing is done! But, indeed, the poor man's authors, after his Bible, are but three or four, and they of the very best; and of the thousand cottage plans that have been designed for the country labourer, there are scarcely more than three or four which he really is likely to be able to use. It is notorious that the old mud hovels of the waste, the concretion of many generations, have far more comforts and charms for the peasant, than most of the new spick and span new model cottages, premiated at the last agricultural show.

It would be a waste of time, yet almost amusing, to run over the numerous mistakes which have been made in prize cottages, even by our leading societies. Some of the very worst models which I know have been ushered into the world as model designs. Some without any pantry—one with an ornamental verandah over the scullery—another with separate chimney shaft to nearly every grate—another with classical pediment to the gable, and Gothic moulded battlements to the pigsty. I pass over the outrageous humpbacks and extravagant hipshots and other absurdities, beside the idea of giving the labourer a body of work, and some quite impracticable; and I must own myself to a share in one which appeared in a leading review, in which the only way upstairs was apparently through the window.

Till within the last twenty years very little thought was given to cottage-building. Even improving landlords had little notion except of making their picturesque. The first lesson I have fresh than the wide access of a London opera, taken on, by the aid of the village carpenter, large boards and rough bark, put sham latches on the front doors, which were nailed up to make all look neat and tidy, and then believed that they had effected a Swiss cottage, and a creditable improvement. But this was all in reference to themselves, and not to the occupiers, who were often put to great inconvenience for the sake of this outside show. Even when the best motives actuated the proprietors, there was a lamentable waste of preparation to the end proposed; and I scarcely know an instance where extensive cottage-building was effected, five-and-twenty years ago, where there are not evidences, in pseudo-Gothic, and classic accessories, of an unequally about the work, and, at best, but a feeling after an object which was not attained. The late Duke of Bedford was one of the first who systematically set to work in a regular manner to solve the problem how a substantial and convenient house could be erected for the labourer, at a cost which would pay a reasonable interest on the outlay. He took the broad and liberal view which became a man who recognised the principle, that property has its duties as well as its rights. "Cottage-building," he says, "is, we all know, a bad investment of money, but this is not the light in which such a subject should be viewed by landlords, from whom it is surely not too much

to expect, that while they are building and improving farmhouses, home-steads, and cattle-sheds, they will also build and improve the dwellings of their labourers, in sufficient number to meet the improved and improving condition of the land."

His example was very widely and quickly followed; and indeed there were many cases, of greater or less success, doing the same good work independently, at the same time; but the Duke of Bedford will always stand out conspicuous in the movement, from the personal attention he himself bestowed upon the details of the plans, and from the book of designs that he published.

These are still among the very best before the public, and greatly to be preferred to the hundreds of greater or less average designs. They range from a single cottage to groups of five or more; meeting almost every conceivable requirement of numbers and condition of families. They are thoroughly unpretentious in character, and they are cheap. The great agricultural societies, especially the Royal Agricultural Society, and the Yorkshire Agricultural Society, took up the subject of cottages about the same time, offered prizes for the best designs, and published the results. But by far the greatest share in promoting the cause of Cottage Improvement, and providing a large variety of commodious and inexpensive plans, must be assigned to the "Society for Improving the Condition of the Labouring Classes" (which has its office at Exeter Hall, and its publication, "The Labourer's Friend"), and more especially to the late honorary architect of that Society, Mr. Roberts, who, at home and abroad, in town and country, has done more for the individual, and, may say, any body of men, to disseminate reliable statistics and information about the dwellings of the labouring classes, and to carry out practical measures for their improvement. His pamphlets and lectures are generally too well known to require me to specify more than one, the last, just published by Ridgway, and entitled "Essentials of a Healthy Dwelling." I might have been charged with direct plagiarism, if I had seen his pamphlet more than a week ago, for it contains a design almost identical in general ground-plan with the one which I exhibit; but my own has been in the course of modification for the last two years, though no doubt indebted to some of Mr. Roberts' earlier plans for many features of its arrangement.

The one before you was, however, more directly modified from a ground-plan given in Mr. Strickland's most valuable pamphlet on "Cottage Architecture," his examination of the best designs sent in to the Yorkshire Agricultural Society in 1859.

I could not have greater confirmations of the excellence of this plan than the facts, that almost the identical arrangement has been sanctioned by Mr. Roberts, in his latest publication, as the best which his matured experience can recommend; that so practical a man as Mr. Strickland adopts the same; and that the plan has twice won the prizes awarded by the Leeds and Royal Agricultural Society embody its main features.

Such a concurrence of authority almost settles the question as to the best general arrangement for a double cottage; and is the more remarkable from the great divergence of the earlier prize designs, one from another, and all from this. I wish most explicitly to disclaim for myself any claim of originality in this plan. I put forward a much more original public design, and I include it after having carefully examined many hundred plans (as I have done), I have selected that which has the concurrent approbation of the best authorities on the subject, and will bear the criticism of the present meeting.

It is from the sources I have indicated, that I have drawn out (by the assistance, originally, of my friend Mr. Slater, and now by the aid of my friend Mr. Pridgely, who has kindly made the alterations for the country; and the only one I have not called a "Model Cottage" (for I should be very sorry to see any one type repeated and repeated over the whole country), but yet one which combines all the requirements that I have found to be demanded by those who have studied the subject, and from the experience which I have gained by enquiries among the agricultural labourers of my own parish. I think it better to exhibit a plan of a design, which I have made, and which is a series of compromises, with which I should have to find more or less fault. Of course this which I exhibit is open to criticism; and I hope that it may call forth discussion from those who have given attention to the subject of cottage-building. This design, then, professes to be for a pair of cottages for agricultural labourers. It is not suited to be built singly, or in a row of three or more. But a pair of cottages is the most useful form for the country; because the single cottage would of course be comparatively dearer; and, from having all its sides outer walls, would, with the same thickness of brick, be much colder; while a row of cottages, besides being by association less country-looking, is also far less convenient for having a garden attached, of sufficient size to enable the tenant to pay a commensurate rent.

It is in that way that I could meet the difficulty of the landlord's gaining a fair return for his capital. For the mere house, it cannot be done from the ordinary pay of a field labourer. Eighteenpence a week is as much as a man can well pay for rent, out of 12s. or 14s. a week wages; but £4 per annum is poor interest for £120 or £160 laid out by the landlord on a cottage which he has to sustain in repair, or at a quarter of half an acre, at ordinary farm rates, the extra £1 or £2 which the cottage has to pay is more than compensated to him by the market-garden value which the land at once gains in his hands. Thus, by converting the grass or arable ground into garden, and affixing it to the cottage, the extra rent which the landlord may at once put upon the whole makes up for him the insufficient return of the house singly. I need hardly observe how doubly valuable to the farmer is the land attached to his dwelling, compared



with the field allotment, which, as all who know country customs are aware, is almost always staked out in the most distant and inconvenient corner of the parish.

I enter into this part of the subject, because it meets the financial point of the question—in this as in every other matter—the one on which all eventually turn. If it were not that cottages are required to be built cheap, we need not consider the matter at all; or we let me not say "cheap." Let us only make a cottage *reasonable*; and we have not to consider whether it is cheap, but whether it is good. The plan I have indicated will unfortunately only meet the cases where land is at its natural value as land, and is at the disposal of the builder—but this is the case in nine-tenths of our rural parishes, and it is with these that I profess to have most to do.

(To be continued.)

#### WEST BROMWICH SCHOOLS.

OUR principal illustration this week represents some projected Church schools at West Bromwich, Messrs. Green and de Villis, of 36 Ormond Street, architects, say:—We propose to construct the site of the building of the new red sandstone, with occasional bands and arches of colored bricks or stone, and the dressings of oolite, the roofs being covered with slates of various colors. The schools are planned according to the requirements of the Committee of Council on Education, and are designed to accommodate 450 children, the grounds are for the infants' school, with a south-west aspect, accommodating 150 infants, and the girls' school, with a south-east aspect, accommodating 150 girls, over which is a schoolroom for 180 boys, reached by a stone staircase in one angle, surmounted by a bell-turret. The infants' and girls' schools are divided by a double curtain, which allows of the two being thrown into one large room for assembling all the children at one time. All the schools shall have a separate playground, and adjoining the building is a master's residence with a garden attached. The schools are provided with class rooms, and fitted up, warmed, and ventilated in the usual manner. The estimated cost of the buildings is about £2,000.

#### ROYAL INSTITUTE OF BRITISH ARCHITECTS.

A N ordinary general meeting of this body was held at the rooms, 9 Conduit Street, in Monday evening. Mr. Andrew Gwynne, V.P., in the chair. Mr. John Henry Parker was introduced as a newly-elected honorary member of the Institute.

The CHAIRMAN announced that the annual *convention* of the members of the Institute was to be held on the 25th of June, and that notices of contributions of works of art for use on the occasion should at once be sent in to the honorary secretary.

Mr. JOHN W. LALWORTH then read a paper, ON AN *ÆSTHETIC PRINCIPLE IN DECORATION*. The paper, which is not to be published at present, was illustrated by a number of drawings. The lecturer endeavored to establish the following points:—first, they had no safe guide in decoration except that which arises from a careful study of executed examples, judged upon principles that were easily found; that those principles were opposed to the enrichment of sculptured ornaments by colour under any other pretence than that of gilding (and he contended that he had on a previous occasion established the fact that gilding was a barbarism in statues and in ornament); that gilding in all its branches was not a falsehood, and that in most of the cases in which persons had raised the cry, "A sham, a sham!" the sham had really been their apparently virtuous indignation.

Mr. WILLIAM WATTS proposed a vote of thanks to the author of the lecture. The lecturer asked them whether they would construct their decoration, or decorate their construction, as though the alternative lay between two matters; but there might be a thousand other compositions equally to be taken into account. Again, he thought there was one point in respect to that from which the lecturer had rather held himself aloof, and that was the need of positive colour as attested by the universal taste of mankind. People would have colour in all their rooms, and in all other places where they were to be for any length of time. In many medieval works there was a very common decoration, which consisted of stencilling out in stone without any other line-work. They could not do that whatever as to the accuracy of the principle laid down by the lecturer in reference to the truth of construction. But that did not argue against the truth in construction, and he hoped that Mr. Lalworth would have shown them some principle as to what was truth in construction, because there were many truths which were not painted, and might be worse for being expounded. In nature the most beautiful things were those that had no utilitarian advantage in the way other constructive art had. Look at the petals of flowers, and the delicate texture of the flowers themselves; they had no positive utilitarian use, and yet they were some of them the most beautiful things in nature.

Mr. J. H. PARKER has been called upon by the Chairman, said his study had been confined chiefly to the history of architecture without extending to its æsthetics, or principles. He had always thought that colour was meant to bring out the forms.—Mr. W. BURGESS said, colour was a gift of the good God, and if a man had not that gift, all the world could not make him a good architect.

Mr. MOWAT said he thought they should look at architecture in its grandest light and aspect, and then they would find that decoration and

bits of fancy colour were all very subordinate indeed. If they looked at the works of the ancients, they would find that all the durable decorations were in relief, and it appeared to him that architecture should be kept up and looked to in that way as a decorative art, without depending upon painting or sculpture. And he thought the more this independent character was kept in view, the grander and more important would architecture be as an art.—Professor KEAN said, they should both decorate their construction and construct their decoration, but they were in the infancy of the study of the real principles of decoration. He disputed the doctrine of Mr. Burgess, about colour being a particular gift. He did not think every man wanted colour, and he did not like Gothic colouring. When they copied nature they did wrong, but so long as they followed nature to the idea of conventionalism, they did as much as they could in the present infancy of decorative science.—Mr. C. F. HAYWARD said, there were very large portions of educated people, who desired to have good and proper coloured decoration, but that the uneducated mind desired colour was quite clear to everybody.—Mr. MATTHEW thought all liked colour more or less, especially the ladies. He would not like to sit long in a room where there was not colour, but the chief thing to be avoided was false colouring.

The CHAIRMAN was of opinion, that if proper attention were paid to the matter, it would be found that there was not so much difference between the Gothic and the Classic as to decoration. As to nature, they could not follow nature in an arch or roof, to which they should bear in mind was accuracy and propriety. There were very many critics outside the room, who were very polychrome outside, although they did so inside the building. We should not ourselves polychrome the outside of our houses, and he believed with Mr. Parker, that the great use of colour was to enrich and to enhance the beauty of a building.

The following gentlemen were, on ballot, admitted members of the Institute:—Mr. John Samuel Phelps, 141 Overy Street, Chelsea; Mr. Gore Ouseley Lane, of a Dawson Place, Baywater.

#### CHURCH, CHAPEL, SCHOOL, AND OTHER BUILDINGS.

WALSOKEN.—On Thursday afternoon, at New Walsoken, the first stone of the new Chapel-of-ease, was laid by Mr. R. Young. The architect is Mr. W. Adams, and the builder Mr. J. H. Andrews. A brass plate was enclosed in a cavity in the stone, recording the particulars of the event.

ST. GILES, GREAT CHURCH, CAMBRIDGE.—A beautiful western window was placed in this church last week, on the anniversary of the death of the lamented Mr. G. C. Antrobus. The window, which is a memorial one, is the united offering of the tenantry and inhabitants of Eaton, bequeathed by the incumbent, the Rev. J. P. Firmin. It is from the studio of Messrs. Edmondson and Son, of Manchester, and represents the parable of the good Samaritan, and suggestive of the good Samaritan, and suggestive of the "wise." Beneath the subject is the inscription, "In memoriam Gibbs Crawford Antrobus. Obiit 21st May, 1861." In the upper tracery of the window are foliage and other ornaments, surmounted by the shield of the deceased. The colouring of the window is clear, but well tempered and toned into harmonious general effect; and though the whole appearance of it is highly pleasing, it very properly does not vie in brilliancy with the beautiful chancel window by the same artist, erected four years ago by the masonic body in the neighbourhood as a mark of respect to the late Mr. Antrobus. We understand that in addition to the window it is intended by the parishioners to place a monumental cross in the body of the church.

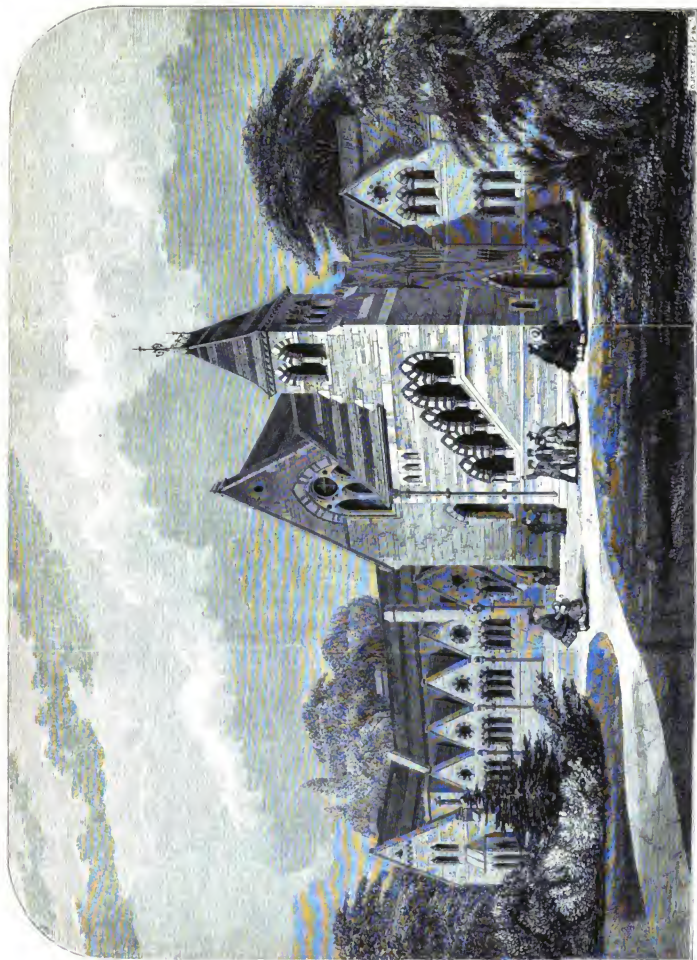
ST. GILES, EXMOUTH.—The old parish church of St. Giles, Exmouth (formerly Exleeshall), near Axminster, Wiltshire, has been restored at a cost of about £200. The works have been completed very satisfactorily. The Rev. H. C. Carleton, rector of Arrow and Exhall, has subscribed handsomely to the restoration fund. Mr. Solomon Hunt, of Harrington, was both architect and builder.

HARRINGTON, NEAR WINCHESTER.—The restoration of the fine old church at Highworth, near Winchester, is nearly completed, and reflects credit on the architect, Mr. Huggall, and the builder, Mr. Pridley. The opening takes place to-day (Friday).

ST. PETER'S, MARLBOROUGH.—A vestry meeting was held last week to consider the plans and specifications furnished by Mr. Wyatt, the diocesan architect, for repairing, remodeling, and re-erecting the church. The rector occupied the chair. The churchwarden, Dr. Fergus, W. C. Merriman, Esq., John Halcroft, Esq., and a large number of ratepayers attended. The plans, &c., were produced by the rector, and the proposed alterations having been explained and discussed, the meeting was adjourned for the purpose of obtaining further information from Mr. Wyatt. A working committee, consisting of the rector and churchwardens, and a committee of reference were appointed.

NEW CHURCH AT WARTER, NEAR POCKINGTON, YORKSHIRE.—The corner-stone of the new church at Warter, was laid a few days ago. For the removal of the old church (which for years had been in a dilapidated condition), and the building of a new one, the parishioners are indebted to the liberality of the principal landowners of the parish (the Duke of Devonshire, Warter Priory). The stone was laid on the south-west angle buttress of the church, which will be built in the Gothic style, and consist of a nave and chancel 80 ft. long by 33 ft. 6 in. wide, with a tower and spire 120 ft. high. The architects are Mr. William G. Henson, and Mr. Alfred Pate, of London; the builder, Mr. Ralph Featherley, of York.

HOLY ISLAND PARISH CHURCH, DURHAM.—As the restoration of this



PROJECTED CHURCH SCHOOL, WEST HANOVER, N. H.

church proceeds, matters of interest and beauty are constantly discovered. The arches of the nave have been cleared of centuries of whitewash, and exhibit an architectural construction of rare excellence and beauty. The pillars on the north side are circular, on the south octagonal. Some of the arches are constructed with alternate white and red stones, while the masonry is of the most perfect kind. The arches on the north and south are different in architecture, construction, and size. Altogether this church will exhibit some of the most extraordinary freaks of ancient architecture yet discovered in the kingdom.

**HOLME CHURCH, NEAR STAMFORD, LINCOLNSHIRE.**—The church at the village of Holme, having been found too small for the requirements of the parish, has recently been considerably enlarged. The edifice comprises a nave and aisles supported by Norman pillars, and a clean and agreeable appearance. The benches are entirely of oak, the ends nicely carved, the whole facing the pulpit. The floor is tessellated with red and dark-colored glazed tiles. Iron gratings run up the aisles, under which are pipes conveying hot water for warming the building. The roof is ribbed and vaulted, and, as well as the lectern and reading desk, is of red pine stained to resemble oak. The pulpit is of marbled alabaster with carved mouldings round the base, emblematical of the four evangelists, and mounted on a pillar of Helston stone. The entire cost of the building is about £2,000, the greater portion of which has been met by Wm. Wells, Esq., the lord of the manor, and the rest by a rate of 1s. in the pound, extending over two years. The church, which is calculated to hold about 350 people, was erected by Messrs. Perkins, of Easton, and Bradshaw, of Stamford, under the superintendence of Mr. Rogers, architect of Stamford. The iron building formerly used at Millfield, Peterboro', for a Sunday school, having been purchased of Mr. Stanley's executors, was appropriated to the purpose of public worship during the progress of the erection.

**WAKEFIELD CHURCH INSTITUTION.**—On Tuesday evening, the building erected for the purposes of the Wakefield Church Institution at the top of Westgate, in that town, was inaugurated. The building may be called geometrical (Gothic), and has been erected from the designs of Mr. Higgins, of Newcastle-on-Tyne. The cost of the building, apart from the site, has been about £2,000. The lecture hall is acoustically well constructed, and there are a reading room and library on the ground floor, as well as several large and well ventilated class rooms on the basement story.

**ST. JOHN'S, BIRMINGHAM DOWNS, BIRMINGHAM.**—A writer to the *Bristol Daily Post* says:—"It is stated that funds are being raised for the erection of transepts, and for effecting other alterations and improvements, with a view to meet the necessity for additional church accommodation in this rapidly increasing parish."

#### CLASS OF DESIGN OF THE ARCHITECTURAL ASSOCIATION.

A MEETING of this Class took place on Friday last, when there was a large attendance of members. The President of the Class, Mr. T. R. SMITH, occupied the chair of the evening, and the designs of Mr. Higgins, of Newcastle-on-Tyne, were criticised by Messrs. Beesley, Davies, Hawk, Julian, Molesey, Paris, Payne, Rolter, Sils, Spiers, Tarver, and Walter, and which were freely criticised by the chairman and members of the Class. The designs were accompanied, in the majority of cases, by plans of the several floors, and several of the drawings had been carefully studied, and were very meritorious. After the examination of the sketches, the Class proceeded to elect officers for the ensuing session. Mr. T. Roger Smith was unanimously re-elected President, and Mr. R. O. Harris, Vice-President. Mr. E. J. Tarver was re-elected honorary secretary, in conjunction with Mr. L. W. Ridge, and a vote of thanks was passed to Mr. Walter, the retiring secretary. The meeting then adjourned to Friday, the 13th of June.

#### Reviews.

*Second Annual Report of the Society for the Acclimatization of Animals, Birds, Insects, and Vegetables within the United Kingdom, 1862.* Offices, Duke Street, Adelphi.

From the report before us it appears that the anticipations of the success of the Society have not so far failed, and that, considering the short time that it has existed, and the difficulties that usually beset an attempt to introduce novel ideas and novel experiments, the condition of the society is highly satisfactory. The number of members and subscribers has increased largely since the last annual meeting.

*The Assurance of Discontent and Doubtful Lives on a New Principle, more Advantageous and Equitable to Policy-holders than the System hitherto adopted.* By MORRICK A. BLACK, Actuary to the London and Yorkshire Assurance Company. With Observations on the Characteristics of Assured and Non-assured Lives. By A. P. STEWART, M.D., F.R.C.P., Physician to the Company.

Life Assurance, a matter often sadly neglected even by those who are most eligible both as to health and means, is the subject of this pamphlet. The writer's object is to indicate the general principle on which lives are selected for assurance, the system on which "dissolved and doubtful" lives have hitherto been assured, and to develop a new principle with relation to the latter class of lives more equitable than that hitherto adopted. The system hitherto observed, it may be stated in brief, in the case of all

assured dissolved lives, is to add a certain number of years to the natural age of the candidate for assurance—five, ten, or fifteen, as the case may be; thus making a candidate, as an assurance subject, so many years older than he really is. Mr. Black entirely discredits this method. He argues that the estimate of the value of a life is often false, still often mistaken, and generally unreliable, as positive data are proposed, therefore, in all cases, to give the assured the benefit of the doubt, instead of the insurer, who has nominal age, and by so much increasing the premium, Mr. Black's plan is to accept candidates at their real age, that is to say, at the ordinary premium, and charge the estimated depreciated value of the life on the policy, to be deducted in case it becomes a "claim" within a specified number of years; and if the life survives the specified number of years, no deduction from the sum assured is made. This plan, it must be confessed, is both easy and equitable. It gives the candidate whose life is assumed to be diseased the chance of assuring on the ordinary terms, and the further chance—if his life should prove a good one—of occupying altogether any additional charge.

*The Church's Floral Calendar.* London: Day and Son, Lithographers to the Queen.

This is one of the most beautifully executed works we have ever seen. It is compiled by Emily Cayley, with a preface by her brother the Rev. F. Shelley Cayley. The illustrations are designed and chromo-lithographed by W. R. Tymus. The object of the book is to associate flowers with principles. The theological spirit of the book may be seen indicated in the following sentences, which constitute the concluding paragraph of Mr. Cayley's preface. "It must, however, be remembered, that with some holy days, more than one flower is connected with tradition; as, for instance, in the case of the Annunciation, to which appertain the flowering almond, the white lily of the Annunciation, and the carnation flower. In such cases the compiler has confined her choice to the one which seems best adapted to the festival, or the most sanctioned by use."

#### THE REV. GEORGE WILLIAMS, B.D., ON ECCLESIASTICAL ARCHITECTURE IN GEORGIA AND ARMENIA.

(Concluded from our last.)

##### THE CONVENT AND CHURCHES OF SAFFARA.

**WARDISLA.**—Still ascending the Kar, which here runs through a rocky gorge, dominated by the picturesque castle of Tsimounse or Imogvi, situated on an almost inaccessible hill on the left bank of the river, we reach the rock-hewn convent of Wardisla by a road scarcely practicable. This convent is entirely excavated in a precipitous rock, which rises from a narrow plain on the left bank of the Kar, and consists of nearly 400 chambers of various dimensions, among which are found one large cathedral church and six or seven small chapels. The whole place has been greatly injured by the ravages of desecration, during the occupation of this part of the country by the Turks; but quite recently, a vigorous lay-brother, a Greek from Trebizond, has been earnestly employed in clearing it of its pollutions. The cathedral has been restored and furnished with vestments, and the convent has been supplied with the Liturgy of S. Chrysostom, are again celebrated there by a Greek priest, also from Trebizond. In the presence of a few of the orthodox villagers from the neighbouring village of Tsomda. I can only briefly notice the cathedral, which is situated about the middle of the mountain, and is reached by opening into it from the south, supported by two pillars left in the live rock, and is lighted by apertures pierced in the same. It measures about 45 ft. by 25 ft., and is about 40 ft. high; the rock at the east end is formed into an apse. On the north is a kind of aisle of irregular shape, in which is the mausoleum of the renowned Queen Tamar, who passed much of her time at this place, and whose apseous apartments, with their wide divans, all excavated in the natural rock, once communicated with the church by a passage and stairs, still to be traced. This queen, who died in A.D. 1212, was daughter of George, who reigned from 1126 to 1184, and is said to have commenced this monastery, which was finished by his more renowned daughter. Of the chapel I can only mention one, which is entirely covered with frescoes, evidently executed by a Greek artist, probably a monk of Mount Athos, for not only are all the subjects treated, and all the figures represented in the conventional style of the Greeks, but the names and legends attached to each are certainly in the ancient Greek characters, though Bruseat has pronounced them to be Georgian. The only piece of masonry in this extensive convent is found in the entrance gateway, which may also have served for a bellry; but the upper story is now entirely of wood. This building which is comparatively modern, may date from the restoration of the monastery, after its violation by (Tamerlan's) Thab-Thamas, about the middle of the eighteenth century.

It is scarcely necessary yet to describe the most venerable, and to me the most interesting of all the ecclesiastical monuments of Georgia, situated also on the Kar, but at a distance of little less than 200 miles from the convent last described. Only one post short of Tiflis, at the confluence of the River Aragva with the Kar, is situated the site of the city of Mtskheta, the noblest and the capital of the Georgian kingdom, the venerable cradle of the national church, and the seat of its Catholicos, until, within the last few years, the Russian bureaucracy chose for centralisation, most unhappily, as I think, transferred the metropolitan seat to Tiflis, and merged this ancient independent branch of the orthodox Church in the holy governing Synod of St. Petersburg.

Meanwhile, the material land-marks of this much enduring church still remain, mutilated and desecrated no doubt, and grievously shorn of their ancient dignity, but only too dear on that score to the people who cherish the memory, feeling of veneration and love for what presents the noblest example which ecclesiastical history has preserved of allegiance to the faith of Christ, under hardships and privations and persecutions which have no parallel in any other church in Christendom.

I have two churches to describe, the "Ouspenski Sabor," or church of the Assumption, and the Cathedral of the Twelve Apostles. The Ouspenski Sabor, is the conventual chapel of a small nunnery, which doubtless occupies the site of a more numerous and influential religious house attached to this abbey

church, in the palm days of Georgian Christianity. It stands in a court of some considerable size, surrounded by a high wall, within which, on the south and south-west of the enclosure, stand the houses of the nuns and the hospitium and guests-house, which are more modern and domestic buildings.

The north-east angle of the close is occupied by a very small chapel dedicated to the memory of St. Nino, the apostle of the Georgian nation, who, a humble slave girl herself, emancipated the king and people of the land of her captivity with "the glorious liberty of the word of God." At the west angle of the church is a square tower, with a polygonal lantern, with a conical roof, which may formerly have served for a bell-tower, similar to that over the chapel of St. John Baptist, at Safara.

But I must proceed now to notice the church itself, which is of the same type precisely as that of Timotheof and, as at the principal church of the Convent of Safara. I shall, therefore, notice only those features which are peculiar to this church. Externally I have to notice a double base-tale, the lower 4y, the upper 9 in. deep; each 9 in. wide, serving as a continuous cornice. The side arches, which support an arcade that runs round the whole of the original wall of the church which is still exposed to view; for additions, of which I have to speak presently, have been made to the church, both on the north and south sides. This arcade is common to this church and the cathedral, and I see, from drawings, that it was applied also to other churches in Georgia. It is admirably executed, and indeed the whole construction of these walls is a masterpiece of masonic art. The east wall is raised in five, giving one arch to each side, and three to the chancel, which rises much higher than the side arches. There is a curious angular recess between the two arches that support the side arches of the chancel, the only exterior indication of the apical termination within, for these recesses are formed in the thickness of the wall formed by the apse. But the most remarkable feature is this church is the chapel shutting off the apse from the rest of the church, and forming a point of access to the church itself. This chapel is covered with a gabled roof at right angles to the roof of the church, and tiled, while all the other roofs are of the same solid ribbed stone as we have noticed elsewhere. There was formerly a porch at the west end, which is now a ruin, and a small cellar-like building covers the northern wall for a length of 65 ft. from the west end, being only 14 ft. wide. The church measures externally 90 ft. by 56 ft., not including the chapels. I must not quit the exterior without mentioning the very rich and elaborate ornamentation which the exterior of the church exhibits. There are in three; the wall border, the middle arch being pierced with two lights, while the side arches, which are much narrower and lower than the central, serve as frames for double blind lights, which seem never to have been pierced.

Entering into the interior, through the door (the front of the west) of the north chapel, the arch of which is nearly double the width of the others for the purpose of forming a porch, we find this chapel highly ornamented with good stone carving of the Byzantine character. It is divided internally into four bays; whereas the easternmost has an apical termination, the next bay to this has a flat dome vaulted with a very exquisitely sculptured, and its walls are richly carved and recessed. The interior of the church itself corresponds in all its main features with Timotheof and St. Saba, already described, but a less stone screen of Byzantine character, with the arches either in place of the usual ribbed stone, or in the form of a conical roof of this type. The apse is more of more developed than in the church of St. Saba. There is in the centre of the apse a large throne, to which is an ascent by four wide steps, which run entirely round the apse, and seem to have formed a double row of benches for the choir. Behind the throne, the east wall is raised three or four steps, attached to the eastern face of the pier which supports the lantern on the south side of the nave; and in the corresponding position on the north side is a very massive chair in black marble, without any carving. The former of these was said to be the throne of the Metropolitan, the latter of the begum.

This church was undergoing very extensive repairs when I was there, and was entirely denuded of furniture, which considerably facilitated my survey. The nuns were meanwhile assisting in the offices at the cathedral, which I have next to describe. I shall be as brief as possible.

The Cathedral of the Twelve Apostles is a building of the greatest interest to the sacred archaeologist, and exclusively so, being that which undoubtedly occupies the site of the first church of Georgia, erected during the reign of Constantine the Great; while the existing building, though often raised by accident or violence, and as often restored, yet unquestionably exhibits in its main features the identical church in which many generations of the Georgian kings of Iberia received their coronation, and in which the mortal remains of some of the royal family have been interred for centuries. But we are at present engaged with the architecture, not with the history and antiquities of Georgia.

The church is situated within a Kremlin—a name common in Russia to any fortified enclosure surrounding a church, and as that most celebrated one at Moscow; the Acropolis at Athens, or the Capitol of Rome, would have been kreamins to the Russians. The high wall of this enclosure is flanked with square and circular towers, which give it quite the character of a fortress; and the buildings occupied by the church, and as that most celebrated one at the west and south sides of the close: the palace of the Metropolitan I did not distinguish amid these half-raided habitations.

The church itself has the same double base-tale, and an arcade running round the walls, with nine arches on each side, and a conical roof over the Assumption; but it has also some curious sculptured stones placed in the wall at random, as it would appear, by way of ornament—some carved in arabesque patterns, others rude representations of animals unknown to history—possibly recognised in Georgian legends, and others as that most celebrated one at Moscow. The height of the lantern, I read, is 112 ft.

It has these peculiarities. A narthex, covering the whole of its west front, besides the square porch which we have found in the other churches. This narthex has a roof of its own, a narrow aisle of the same height as the narthex, and the nave has windows in its west wall, above the roof of the narthex. The church has also double transept aisles, which within appear like an extension of the nave eastward, and of the sacristian westward, one bay each; it is only the roofing that indicates that they really are what I have called them to be. The iconostasis is adorned with the figures of the transept, and stands between the two eastern piers of the lantern. A modern and tawdry iconostasis has lately been substituted for the old one, the fragments of which

were resting against the south wall of the transept, and the grim-visaged figures of the old national saints in their picturesque costumes appeared to me much better to harmonise with the genuine local character of the interior, than the modern and debased taste. The lantern is a polygon of sixteen sides, and springs immediately from the pendentives, without the intervention of the circular drum which is found in the Church of the Assumption. Between the piers of the nave on the north side is a low square tower, which is a modern addition, framed and covered with ancient paintings—an object of special veneration to the Georgian Christians, as being the place where a miraculous vision of the Assumption of the Virgin Mary was said to have been witnessed. The most precious relic of the Church and nation. Those by this, on various occasions, when the Georgian kings were crowned by many successions of Catholicism, from the days of Mirimir, their first Christian king, until the last of the royal line, George XIII., at the close of the last century. There is an ascent of two steps to the sacristian, which is divided into stalls, five on each side, and a small altar in the apse, which is an extension eastward along the wall of the sacristian. Immediately behind the altar is a large and massive ivory cross, used in processions, covered with Byzantine chasing, very rich and of great antiquity. The church also possesses a reliquary of ancient date, which the Catholics was wont to wear as a breastplate on great occasions, in imitation, it may be presumed, of the Urim and Thummim of the Jewish high-priest.

This situation has carried us again to Jerusalem, and I must not leave this interesting church without directing your attention to a stone model of the Holy Sepulchre, erected against the south wall of the narthex—an ancient memorial of the old communion between the Georgian Church and the Holy Land, to which I have already more than once referred, and to which I must further allude, in conclusion, in order to call to your notice the remarkable resemblance that is everywhere to be observed to the churches of the East, as described, and two of the eleven churches which still exist at Jerusalem, which are historically known to have belonged originally to the Georgians. I allude to the Church of St. James, now held by the Copts, and the Monastery, and the Convent Chapel of St. Saba, which is occupied by the Franciscans since the sixteenth century. I am enabled, through the kindness of Signor Pierotti, to exhibit ground-plans of these churches, and a section of one, a glance at which will at once show you how remarkably, in this instance alone, architectural sense confirms historical testimony.

I was to have said something of Armenia as well as on Georgian Ecclesiology, but have left myself less than no time to do so, having already exceeded the limits assigned me. I regret this the less, because, having been prevented by illness from exploring the Armenian churches of Tiflis and from prosecuting my contemplated journey into Armenia Proper, I could only be represented as them at second hand, from books, which probably are accessible to all, in the reading-room of the British Museum. I thought I should be doing better service if I confined myself to the results of my own actual surveys of buildings which I have either seen or described, and which I have seen or described in a very slowly and careless manner as I mislead rather than to guide the student who would investigate this almost untrodden, but most interesting and instructive field of ecclesiastical research. I feel that I have done but scanty justice to the subject, but I trust I have not done so in a way which would impede the investigation of the curious question of the place which Georgia occupies in the development of religious architecture—a question which appears to me to offer some problems not very easy of solution, and which I gladly leave to other hands.

#### ON THE LIFE OF WELBY PUGIN.\*

THE remainder of the chapter of this great artist's manhood need not take I much time to tell. In 1843 he published another book, entitled "An Apology for the Revival of Christian Architecture in England." The character of the book is the same as before: the same style of enthusiastic exaggeration, more its merit. To such a degree does he in fact give up the old spirit of "contrast," that in presenting, in comparison with a standard Medieval gateway, the majestic Doric portico of the Euston Square Railway entrance, he draws it in a manner literally that of a common shop-card engraver.

The Glossary of Ecclesiastical Ornament and Costume, which he published in 1846, elaborately illustrated in chromolithography, is considered to be a very able, and indeed learned compilation. It is in that light the only one of his works which is of permanent value as a book of reference. As regards our present subject, the "Glossary" is of great value, as it is the only one of his works which is still toward the renaissance of ritual symbolism, and still, in its application, confined to the Roman Catholic church; and that it was deemed at the time to be another successful effort towards the earnest purpose of his life, and one which respects the most important of his aims, is shown by the work kept in check that tendency to exaggeration of argument which was the great fault of his heated enthusiasm. His immediate object was to promote the amendment of art in the vestments, vessels, and furniture of the Romish church, but might easily be said that his ultimate effect was much greater in the Protestant church than in the Catholic.

We have not time to dwell upon a visit that he paid to Italy in 1847; but it may be remarked that his reflections were characteristic as ever. He came home much improved in his style of drawing, much incited at Pagan churches in Rome, and pleased with Italian Gothic Churches; but so far as the influence of his opinions or subdued in his enthusiasm. To the end of this chapter of his best days we have to place Pugin in the same relation to his heart and his faith with which he set forth upon his career; to assign him still the same transcendent, developed spirit, still the same artistic religion, and tending to the same rich and refined exuberance of mystic ritual. Every successive year of life confirmed him in his convictions all the more. That his fanaticism was the fire of real genius, is proved, I think, by the fact that he was not content with his own. He could even acknowledge that in his practical work he found it frequently beyond his skill to adhere to his theoretical principles; and he could do this without giving the advantage to his opponents. The fervid and natural eloquence of his writings proves that he was not a man of cold and abstract notions of genius are. In a word, his spirit was in the clouds; his most intimate associates had but little knowledge of his thoughts—passionate, eccentric, fanatical thoughts that were above them.



gave to the industry of the world, each must form his own opinion; the old jealousy of allowing rivals, especially foreigners, to see what each was doing has passed away, and every intelligent manufacturer now relies upon a reputation gained by the most universal appreciation of his skill. But for International Exhibitions we should not possess a vast amount of useful information, gathered from all countries, of great value to art and industry. It is by comparing each Exhibition with its predecessor that we are able to ascertain, to record, and to profit by the progress of every country in each ten years; and this interchange of useful information enables all to appreciate the advantages belonging to the pursuit of each industry where it can best be conducted, and must lead to economy of production, to the advantage of labour, to the extension of commerce, and to improved commercial relations between manufacturers and producers in all parts of the world.

We have next to consider whether we are making the best use of the great advantages this wonderful collection of human industry places within our reach. I think it cannot be disputed that the highest object of an International Exhibition is the collection and dissemination of the most accurate information concerning the arts, manufactures, and commerce of all countries, thus illustrating the political, social, and commercial condition of their people. Another purpose is the collection of specimens of the mineral, animal, and vegetable productions, or of raw materials, from all parts of the world; but this is of secondary importance, as they can always be procured in the ordinary course of business by those interested in any particular branch of trade. But our workmen cannot obtain the information they require by any other means than those afforded by International Exhibitions. A workman may occasionally see a specimen of foreign handicraft, but the particulars on which he feels he can rely of its cost or the mode of its production. It may be a specimen only shown to him to depreciate the value of his labour, and, by reason of this uncertainty, it is sure to excite his jealousy and prejudice against foreign workmen. He cannot know the real position it holds in the country where it has been made, or whether it fully represents its available mechanical skill. This information he can only acquire by the examination of foreign labour in various stages and forms of manufacture, and where can he obtain such knowledge but at an International Exhibition? To him the comparison of manufactures from all countries, and of many different specimens from each, is invaluable. No Mechanics' Institution can give him such useful knowledge, no teaching in the Department of Science and Art can give him such instruction, as he will derive from a few hours spent in inspecting the work in its various forms of its foreign rivals. To the intelligent and skilful workman an International Exhibition is an industrial college, teaching in the most practical manner—educating the eye, the hand, and the taste, stimulating industry and ingenuity—removing prejudices, and, by enlarging the sphere of observation and giving new ideas, making better workmen.

The importance of this inspection is very strongly felt in France, not only, as I shall subsequently show, that the students admitted to the Exhibition in 1855, but by the arrangements now being made for the careful examination of every branch of industry at this Exhibition by working men. Independently of clubs to bring over numbers of working men cheaply, there is a special sum appropriated by the Imperial commission to pay the fares of deputies to be elected from the great body of each trade by their fellow-workmen.

Feeling, then, as strongly as I do the invaluable effect which the inspection of this Exhibition must produce on working men, I am led to ask if it can produce results of the same national importance on the upper classes. I think it cannot; nor is it necessary that it should. No doubt it will elevate the estimation of the manufacturer in the minds of many it amuses; surprise and excite wonder by the intrinsic beauty and exquisite workmanship of the articles exhibited, and by the wealth of which it gives such striking evidence of the national power to see England's superiority in so many branches of industry; but where, among those classes, can it afford industrial instruction, or stimulate industry, or produce any permanent result calculated to maintain the supremacy of England's manufactures?

But when we turn to the middle and industrious classes we find, besides the pride they feel, in common with all, in the collection of the world's industry, a high appreciation of the great benefits they must derive from the practical instruction they receive at these International Exhibitions. They prove their sincerity by providing the security on which the money is raised for the erection of the building—they supply it when erected with the wonderful collection it contains, and then, by their anxiety to inspect the works of all countries, of their rivals at home and abroad, find a large portion of the funds by which the expenses of management are to be paid.

In 1857, Season tickets, and 2ds. and 3ds. admissions, produced	£67,414
The 2d. 6d. admissions	72,117
And the 1s.	221,274
In 1855, the 5fr. admissions produced	£6,735
2fr. "	7,663
1fr. "	83,904
4 sous "	17,459

So that the working classes of Paris, at 4 sous each, paid more than the 5fr. and 2fr. admissions together, and besides being visited by more than 2,000,000 of people paying but 4 sous each, the Exhibition was open free on one Sunday before it closed, when a vast number were admitted

who would not otherwise have seen it. The numbers then admitted were enormous, but no account was taken of them.

I have drawn this comparison because I conceive it to be true and just, and necessary to illustrate the view I take of the proper mode of making the utmost use of these most valuable of modern institutions. Their object is undoubtedly to disseminate information among the great mass of master manufacturers and men in all countries, to improve their taste and stimulate their industry, and to arrange the most advantageous terms for the sale of those for whose benefit such institutions were inaugurated, it is inconsistent with the broad principles of universality upon which they are based; such exclusion is in antagonism to the publicity which is demanded now-a-days in every sphere of action. It shocks the operation of the principles of free trade, for what is the use of free trade by law, if, when we have the opportunity of teaching our workmen how to compete with their foreign rivals, we refuse to allow them to take advantage of it? Unless there is some demand is created for foreign works and our own producers are prevented from learning how to compete with them. You thereby injure the workman, the dealer, and the merchant.

How, then, do I apply these observations to the present time? I say we open the Exhibition too many days in proportion to the rich, and too few to the workmen. We do not give to our workmen the advantages given to the French workmen. I believe in the low tariff to produce good pecuniary results. The penny postage stamp produces more than the penny or shilling letter. I have greater faith in the realisation of a large sum by a low tariff than by a high one. I would not open the Exhibition every day at the lowest rate; but whilst, in the interest of science and of instruction, and I may say of fashion, I would have one day open at a comparatively high rate of admission, and other days at one shilling for the general bulk of the visitors, I would devote certain days weekly to still lower rates, and as exclusively as possible to working men. Let them feel that an International Exhibition has a truly national object—that they are to derive benefit from it, and then they will learn to appreciate more thoroughly the sacrifice of time, the labour, mental and bodily, which have been required to bring such collections of industry together, and they will retire from the examination of these triumphs of skill and manufacturing industry better satisfied to contribute towards and to aid the exertions which are being made to improve general education, and to enter more fully into the importance and the utility of the large votes for educational and artistic purposes which every year pass the legislature.

#### GENERAL ITEMS.

**MOLYNEUX ASYLUM, DUBLIN.**—The new Molyneux Asylum and National Institution for blind females of Ireland, at Dublin, was opened last week. Accommodation is provided for about 100 blind females. The chapel, which will be opened to-day (Friday) will contain seats for 1,500 persons. The new asylum, it is calculated, will cost £250,000—£200 per annum will be derived from the interest of legacies to the old Molyneux Asylum £300 yearly will probably be obtained from collections in the chapel, being 4½ per cent. on the cost of its erection; and it is hoped that £1,500 will annually be subscribed by all Ireland for the support of the institution. The asylum is a handsome building, in the Tudor Gothic style of plain character, with high pitched roofs and gables, and dormer and mullioned windows. Granite is the material used, the window and door dressing being chiselled, and the general face of the walls of hewn stone. It has three floors. On the lower or basement floor are the kitchen, dining-room, laundry, and servants' apartments. On the ground floor are a day-room, a music-room, and a board-room; these three chambers being divided by folding doors, so as to admit of being thrown into one large apartment for Sunday schools and other meetings, capable of accommodating 300 or 400 persons. To each room there is a direct side entrance. The rest of this floor is occupied by the secretary's room, library, and matron's apartments. The upper or highest floor contains the dormitories, lavatories, and bath-room; also the infirmary, which has a distinct entrance from the main staircase, and is quite separated from the rest of the house. Mr. Rawson Carroll is the architect, and Mr. Bolton is the contractor for the works.

**ANCIENT BRITAIN.**—According to the Jewish Chronicle, the foundation of the inner wall of Jerusalem has lately been discovered. As far as it has been laid bare it consists of very large stones, and the solid masonry is just the same as that of the western wall of the temple. It is about four yards distant from the present wall.

**CURIOUS DISCOVERY.**—The other morning, while some workmen were engaged lowering the ground in a yard connected with Messrs. Southwell's factory, at Bridgton, they discovered the skeleton of a man in a perfect state of preservation. It rested in a rude sarcophagus hewn out of the rock, and was evidently the remains of either a young man, or one in the prime of life, the teeth being perfect and regular. The vertebral column and the back ribs were perfect, as also were the arms, legs, and feet, but the front ribs had fallen in. This grim relic of a bygone age had, when in the flesh, been one of our own countrymen, who was afterwards buried into this country in the reign of Henry III., six hundred years ago.

**BUILDING FOR MARINERS, at MARSHATE.**—A committee has been formed, with the Archbishop of Canterbury as patron, to obtain the means of erecting, on a freehold site close to the pier, a building which on week days can be used as a reading-room, and on Sundays as a place of worship. The site has been purchased for £200, and it is estimated that another £500 will be required for the contemplated buildings.

**ART UNION OF GREAT BRITAIN.**—The fifth drawing of the Art Union of Great Britain is announced to take place in the Free Trade Hall, Manchester, on Saturday, June 28, when upwards of 1,000 works of art, including 250 paintings will be allotted. We infer from the prospectus that 303,168 tickets were sold in the four previous drawings, and 4,200 prizes distributed, including 853 paintings, in amounts varying from £150 downwards, being one prize in each 71 tickets. Each purchaser of a shilling ticket has a chance for each of the prizes, and we would therefore recommend this institution to the support of the working classes, to whom it offers an opportunity of possessing a valuable painting or other work of art which they could not otherwise obtain.

**THE ROMNEY EXHIBITION.**—This interesting exhibition was finally closed last Monday week, when the *fit* at Embury Park very appropriately signified its termination. Lectures have been given without intermission since the opening on the 20th of April.

**THE STONE-CUTTING MACHINE.**—The *Dundee Advertiser* states that a machine of the Master Builders of Dundee was here there on Friday, at which the introduction of the stone-cutting machine was discussed very fully; and it being found that entire unanimity prevailed, a committee was appointed to make the necessary arrangements for the formation of an association to procure and work one or more of the machines in Dundee. The association, although it will be supported, no doubt, principally by builders, is intended to be wrought as a distinct company, with a share capital, which will be employed not only in obtaining the necessary machines, but in purchasing and dressing the various kinds of stones employed in building in this quarter, of every variety of which a large dressed stock will be kept in hand, from which the builders may be supplied in any quantity. In Edinburgh, also, the master builders have resolved upon procuring several of the machines, which are manufactured by the Messrs. Muir, of Arbroath.

**THE MONUMENT TO THE YORKSHIRE DIVISION OF THE LATE SIR HENRY HAVELOCK.**—A tasteful monument has just been placed in the Dean Cemetery, Edinburgh, in memory of the youngest daughter of the late Sir Henry Havelock, K.C.B., who died in August last. The monument, which is the work of Mr. S. M. Glashan, sculptor, Canonmills, has been erected by Lady Havelock.

**THE CONVENTUAL LAND SOCIETY IN NORTH ESSEX.**—The forty-fourth purchase of this Society, and the first in the northern division of Essex, has just been made at Colchester. It is an excellent building property, situate just outside the town on its southern side, beyond the camp and Government barrack lands, and comprising five fields between the roads which there fork—the left leading to Alerton, and the right to Herechurch. A new branch railway, from the Blar Valley branch of the Eastern Union, has been completed, having its terminus in the neighbourhood of Herechurch Church, which will greatly enhance this property for building purposes.

**ANCIENT RELIC.**—The editor of the *Falkirk Herald* states, that he has been shown a casting from an old stone which was discovered amongst the rubbish of the ruins of the parish church at Falkirk, immediately preceding the present one. The stone was discovered in 1810, and from the interesting description given it is believed to be the Roman inscription of the two castings from the stone were made at Carron by Mr. M. Lusk, now clerk in the Falkirk Iron Works. The inscription on the old stone (of which the casting is a *fac simile*) is as follows:—"Hic funeratus D E O N Rob Graham. Ille ceterum val Severus A.C. 416—Fergusius II, R. Soc." and of which the following is a translation:—"Here was interred (the thane) Robert Graham; he ceterum val Severus, in the year 416—Fergus II, King of Scotland."

**ARCHITECTURAL EXHIBITION.**—A lecture was delivered on Tuesday evening last week, at the Architectural Exhibition, Conduit Street, Regent Street, on "Conventionalism in Ornament," by Mr. J. P. Seddon.

**LIGHTHOUSES IN THE RED SEA.**—The works for the execution of light-houses in the Red Sea, says the *Moniteur de la Plote*, are being executed with rapidity. The *Safar*, under the Great of Suva, has been lighted, since the beginning of January, and the *Ushrufi*, which is placed in the Red Strait, and the *Dedaly* on the rock of that name in the middle of the Red Sea, will be in use before the end of the present year. Those three light-houses belong to Egypt, and are maintained at the expense of the Egyptian Government. The Peninsular and Oriental Steamship Company have undertaken to maintain the *Safar* in the passing of the oil for lighting, and the necessary provisions for the keepers.

**THE LIGHTHOUSE AT GREAT ORMEHEAD.**—The works of excavation, construction of works, raising of smithies and workshops, preparatory to the erection of a Lighthouse on the summit of the huge rock on the Great Orme, usually called "Y Pen Mawr," have been commenced. The site selected for this long-expected aid to navigation, is on the most northern point of the Ormehead promontory, opposite the Great of Suva, has been lighted, since the beginning of January, and the *Ushrufi*, which is placed in the Red Strait, and the *Dedaly* on the rock of that name in the middle of the Red Sea, will be in use before the end of the present year. Those three light-houses belong to Egypt, and are maintained at the expense of the Egyptian Government. The Peninsular and Oriental Steamship Company have undertaken to maintain the *Safar* in the passing of the oil for lighting, and the necessary provisions for the keepers.

**METROPOLITAN BOARD OF WORKS.**—A meeting of the Metropolitan Board of Works was held at the offices, Spring Gardens, on Friday last, Mr. Alderman Lawrence in the chair. On the motion of Mr. Dixon (member for Limehouse) it was ordered "That it be referred to the Committee of

the whole Board on the Covent Garden Approach, and Southwark and Westminster Communication, who are already authorised to put in force the powers in the Victoria Park Approach Act, 1858, necessary for obtaining possession of the property required for the formation of the Victoria Park Approach, reporting their proceedings from time to time to the Board (all warrants upon the treasurer, for the payment of moneys under such reference, being signed by nine members of the Committee), to consider the great advantage of purchasing, for the sum of £200, four lots of freshhold building land, adjacent to a very narrow slip of frontage belonging to the Board in the Victoria Park Approach, which would not only improve the road, but likewise secure the Board the amount of from £400 to £500 of the £750 paid to Mr. William Sykes."

**MINT AT CALCUTTA.**—Considerable progress has been made with the building for the new Mint at Calcutta. The walls have reached the height to which it was intended to carry them, and part of the roof is completed. The machinery, which was constructed by James Watt and Co. of Soho, near Birmingham, has all reached its destination, and the rollers already set. Two steam engines of 10-horse power each are intended to propel the rolling mills, cutting-out machines, and stamping-presses, of which latter there will be twelve. There are in all five boilers, on the Cornish principle. These are each 30 ft. in length, and 7 ft. in diameter. There are two flues of 20. 6 in. diameter, running longitudinally through each boiler. So admirable will be the arrangements of the new Calcutta Mint, that it will undoubtedly form, when completed, the most perfect establishment for coining money in the world. There is already, and has been for many years, one mint in the capital of Bengal, of considerable productive power, but this will probably be devoted, after the new mint shall have been started, to the copper coinage only. The new establishment will be in that case employed exclusively in the creation of gold mohurs, and silver rupees, with the smaller relative denominations.

On Monday last, a meeting of the Inventors' Institute was held at the temporary offices, 26, Great George Street, Westminster, when the rules and regulations of the Society were agreed to. Its objects are:—1. To protect inventors' interests, and defend the privilege of obtaining letters patent. 2. To promote improvement in the patent laws. 3. To facilitate the diffusion of knowledge in reference to inventions and other subjects relating to inventors and patentees. A subcommittee was formed to complete the organisation.

**BRIDGEMAN MEMORIAL.**—The fund collected at Broseley, Bridgnorth, and the neighbouring parts of Shropshire, amounting to nearly £3,000, is to be devoted to two distinct objects, in memory of the late Mr. Bridgeman, high-sheriff of the county. Firstly.—In the erection of a memorial to the late Mr. Bridgeman, near Broseley, for which a design by the Blomfield, architect, of London, has been selected in competition. Secondly.—Designs have also been invited for a memorial building, to be erected in the centre of Broseley, over a well and reservoir that have lately been constructed for the purpose of supplying the town with water. The first premium of £20 has been awarded to Mr. R. Griffiths, architect, of Bridgnorth. A second premium of £5 was also unanimously awarded to Mr. W. Thunders, of Broseley, accompanied by a vote of thanks from the Memorial Committee, "for the time and attention he has given to the preparation of the admirable set of Working Drawings for the Memorial Building."

**SOUTH KENSINGTON MUSEUM ART OBJECTS EXHIBITION.**—A private view of the "SPECIAL EXHIBITION OF LOANS OF ART OBJECTS" took place on Tuesday, at South Kensington, and was well attended. The show is such a good one that, despite the counter attractions of the International Exhibition, it will probably always draw a large number of visitors. Her Majesty has lent some excellent porcelain vases; Baron Lionel de Rothschild sends a complete case; and a host of the best-known names in England are represented by articles of more or less interest. There are many gems and jewels, and some of the most beautiful and valuable in the collection. An infinite variety of objects, indeed, is the chief characteristic of the display—drinking-cups, vases, match-boxes, spoons, caskets, tankards, teapots, coloured glasses. We might reprint some pages of the Industrial Catalogue, and yet fail to give an adequate idea of the articles here collected. Of course, many of them are purely interesting, either for the value of the material or the nature of the workmanship, and the whole they are really beautiful. Among these who have kindly lent *objets d'art* are most of the prominent members of the aristocracy; and the list of contributors also includes the names of public corporations and of the universities.

**THE FLOOD IN THE FEN DISTRICTS.**—It appears that, unless some unfortunate catastrophe should occur, the inundations in the fen districts of Norfolk have reached their utmost limits. The high tides have passed, and without the eastern bank of the drain giving way, so that the districts opposite to those that are under water have thus far escaped the calamity with which they were threatened; and the speedy completion of the cofferdam will, it is believed, effectually stop the progress of the flood, and form a barrier against the attacks of the sea water. This work is being prosecuted with great activity and success.

**MUNIFICENCE TO THE FEN PHILANTHROPIST.**—Dr. ANDREW REED.—Shortly after the demise of this divine and philanthropist, a suggestion was made that a monument should be erected over his grave by the young men and women educated in the various orphan asylums of which he had been the founder. On application to his family, they very readily consented to the proposal, and arrangements were in progress to this end, when a very pleasant incident occurred to alter the form of the project. Some



members of the Board of Management of the London Orphan Asylum (the first of Dr. Reed's institutions, but one from which conscientious differences had caused his retirement) heard of the proposal, and suggested that the chapel of the asylum at Clarendon, the most suitable place for a memorial from such a source, and they offered to erect a tablet, if that should be desired. As all the promoters of the scheme, and all who had contributed, were London Orphan Asylum ex-boys, this arrangement was gladly entered into. Mr. Felix Miller, sculptor, an old London Orphan Asylum pupil, has undertaken the execution, in white marble, of an emblematic design for a tablet, in two relief, representing, in full length figures, a wide-seated wife with two young children at her side, and Dr. Reed in the act of lauding to the children, with one hand a book, and with the other bread—education and maintenance. The expense will be considerable, but there will, doubtless, be no lack of funds for the purpose.

**THORPE MALDEN.**—A beautiful stained-glass window has been recently placed in the picturesque little church of Thorpe Malden. It is intended as a memorial of the late Hon. Caroline Eliza, wife of T. P. Maunsell, Esq., and mother of the late Revolver of Stamford. The four principal lights represent the Nativity, the Crucifixion, the three Marys, and the Ascension. Above these are four smaller lights, which contain symbols of the four Evangelists. These are surmounted by two angels bearing scrolls, and by an emblematic representation of Christ in Glory. The whole presents a rich appearance, strangely at variance with the rude appearance of the piers and other portions of the edifice. Underneath the window is a band formed of glazed encaustic tiles, on which are inscribed "In memory of the Hon. Caroline Eliza Maunsell, who died March 14th, 1860, aged 73." The letters are yellow and white on a chocolate coloured ground, edged with a yellow line, and bordered with green. The whole was designed and completed by Messrs. Ward and Hughes, of Fifth Street, London.

**HASTINGS MEMORIAL TO THE LATE PRINCE CONSORT.**—The meeting of the subscribers for the purpose of finally selecting the design for a proposed clock tower at the Priory, Hastings, as a local memorial of "Albert the Good," has been held, and out of thirty-seven designs, one sent by Mr. Edward Heffer, of Liverpool, was chosen, and a guarantee given that the cost of erection should not exceed £500. It is to be built of Bath stone in the late period of Gothic architecture, height of clock chamber 50 ft., total height 65 ft. Above the entrance and side panels, in quadrifolies, is introduced the arms of Hastings, cut upon appropriate shields; above the gable, inserted into a niche, a statue six feet high, of the late Prince Consort, in his robes as Chancellor of the University of Cambridge; and in the panels below the dial, the arms of Saxo Coburg and Gotha. The dial is to be inserted in an octagon, giving variety to the line in the composition; and on one side of the tower a granite basin for a drinking fountain is proposed.

**THE EUROPEAN ASSURANCE SOCIETY.**—At the last annual meeting of this Society, Mr. H. W. Wickham, M.P., in the chair, the report stated the policies issued during the past year to have produced £13,674 in new premiums; that the total amount of business was £120,087; and that the assets had been increased £40,417; also, that in the Fidelity Guarantee Branch the balance carried over upon the year's operations was £6,431.

### CHIPS.

**TWO** new rooms have just been opened in the Museum Napoleon III., at the Palais de l'Industrie, Paris. They contain the objects obtained by Mr. Ernest Renard, during his mission in Phœnicia. The contents of the first room comprise sixteen magnificent sarcophagi in white marble, and almost all intact, a quantity of jewels, in gold and precious stones; bronzes, glass, pottery, inscriptions, and fragments of monuments in marble, stone, and lava. In the second room is placed an enormous mosaic, 33 ft. long, and about 20 ft. wide. It is divided into four compartments, containing representations of human heads of almost natural size, and figures of animals and fish. A very wide and handsome foliage forms the border.

A large number of masonic and other workmen are employed in the erection of the Royal Mausoleum in Frogmore gardens, destined to receive the ashes of the late Prince Consort. The base of the structure is nearly completed, and scaffolding of 100 ft. in height is in course of construction for raising and depositing the heavy blocks of stone. Accommodation will be afforded within the Mausoleum for nearly 100 coffins.

In quarrying what is called the Black Rock for building stone, for the formation of portions of the Severn Valley Railway, an interesting discovery has just been made. The rock is one of the sand-rocks belonging to the lower coal measures, which in this locality are known to be rich in the fossil fern of the carboniferous period, and during last week the workmen have exposed to view a fossil tree of large dimensions. It is eight feet in circumference, and stands perfectly upright. It is probable there are eight roots, although five only have as yet been uncovered. Each root is 2 ft. 10 in. in circumference, and each at a distance of eighteen inches from the trunk divides into two. These strike down into the greenish shale or underlay. The tree appears to have decayed down to within thirteen inches of the root, for there is a clear impression of a branch which had fallen across. Another tree is now being uncovered within a few feet of this one. This is also of large proportions, and on the same coal. The rock for nine feet above is full of other fragments, and smells strongly of petroleum, with which it is strongly charged. Above this rock is a seam of coal twenty-one inches thick, and above that a whitish clay.

On Friday morning a party of navvies commenced sinking a shaft at the western end of the proposed site for the goods station under the intended dead end and poultry market at Smithfield.

The second meeting of the Architectural Institute of Great Britain will be held at Worcester, July 22nd. A special exhibition has been formed of specimens of enamel and niello, which will be open to the 14th inst.

A scaffolding has just been erected at the west front of York Minster, for the purpose of casing the magnificent decorative window with plate-glass. Opinions differ as to the policy of this proceeding, but the ostensible object is to protect the beautiful stained glass.

The new link to be erected in the market-place of Spalding, Lincolnshire, on the site of the shop lately occupied by Mr. John Cave, is to be constructed by Mr. Sneath, of Boston, his contract for the building having been accepted by the Board of Directors. The amount is £2,067. The building is to be handed over to the directors by the end of December next.

An application has been made on behalf of the proprietor of a novel style of tram or railway, to the Marlborough Council, for permission to lay it down, as an experiment, 100 yards in Oxford Street or some other public thoroughfare. The principle is said to be in operation in Salford, near Manchester, and overcomes the objections of Mr. Train's tramway, no trams being above the surface, and the carriages kept steady by a lifting centre wheel, running in a centre groove.

The opening of the line of railway known as the Colne Valley Railway Extension, between Hedingham and Yellham, Essex, took place last week under the most auspicious circumstances.

The council and members of the Institute of Civil Engineers, and several scientific men of eminence, at the invitation of Mr. Bazalgette, engineer to the Metropolitan Board of Works, paid a visit of inspection to the Northern Outfall Sewer, in connection with the Main Drainage, on Saturday. About eighty gentlemen attended, among whom were Captain Vetch, R.E., Professor Donaldson, Alderman Rowe, Dr. Arnott, Mr. Scott Russell, Mr. W. Hayward, Mr. Joseph Cullett, Mr. Benning (city architect), Mr. Vallumy (superintending architect to the Metropolitan Board of Works), Dr. Lethley, Mr. R. P. Breerton, and Mr. Farness, contractor of the work.

The Metropolitan (Underground) Railway was inspected on Saturday by the Chamberlain of the Esherquer and his lady, and also by several of the nobility. The inspection was commenced at Vaddington, and continued to Victoria Station, Clerkenwell. At Euston Square the visitors were received by Mr. Jay (contractor), Mr. Correll (manager), Mr. Fowler (engineer-in-chief), and Mr. Johnson (resident engineer).

The iron-work under the great dome of St. Paul's Cathedral has been painted with Messrs. Peacock and Busch's composition for the preservation of iron.

A young sculptor, Mr. George Macaulay, has just completed a model, in clay, of a statuette of the late Principal Cunningham, of Edinburgh, which, with the pedestal, stands about two feet high. The principal is represented in the moderator's dress, sitting with legs crossed. He holds a book in his left hand, and his right arm is thrown carelessly over the back of the chair. The attitude is easy and natural, and the likeness very characteristic and truthful.

An elegant and extensive suite of rooms has been recently erected as a Soldiers' Home or Club-house, for the military stationed at Chatham garrison.

A drinking-fountain of a handsome character has just been opened at Hastings. The cost, about £200, was defrayed by public subscription—voluntary in every respect, as no person was asked to give—and it was raised as a testimonial to the worth of the Countess of Walsgrave. The fountain adjoins the Holy Trinity Church, Robertson Street, with which edifice it is in keeping, and is eighteen feet high, erected of Portland stone. Three sides of the basement are inscribed panels, and beneath the panels are the jets and basins, and an open canopy, supported on four granite pillars, covers a group of our noblest and the Woman of Sussex. Figures at the corners, outside the pillars, represent the four evangelists; and the monogram "I H S" is carved on the drapery of the canopy.

The first drinking-fountain in Drebahn was opened a few days ago. The fountain was erected by Mr. Joseph Taylor, and is situated at the bottom of Elvet Bridge leading to the baths and washhouses—a very convenient spot. It is of a neat and elegant design. The front is composed of bronzed metal, surmounted by the Queen's head in bas-relief, with wreathed figures on each side.

On Monday morning the North London Railway opened a branch to Kensington in connection with their line. A number of trains ran direct from Bow to Kensington, stopping at all intermediate stations, accomplishing the entire distance in a little under an hour.

A return just issued shows that £2,000,000, as the first instalment towards the expense of coast fortifications authorized to be raised by loan by the Act of 1860, £989,000 have been actually expended up to the present upon works and land, and that purchases of land have been made involving further liabilities to the amount of £695,000, thus leaving a balance of £136,000 unexpended. The amount of contracts which have been entered into for works of fortification up to the present date is £5,689,000, including £1,220,000 for completing works in progress before the passing of the act; and the estimated cost of the land to be paid for is £1,030,000. These fortifications comprise seventy-one distinct works, and are to be constructed at Portsmouth, Isle of Wight, Plymouth, Pembroke, Portland, Gravesend, Medway and Thames, Chatham, Dover, and Cork.

In the House of Commons on the night of the 4th, Mr. Cochrane gave notice, that on an early day he would call the attention of Her Majesty's Government to the state of the Chamber House at Westminster.

Those who have so often laughed over the productions of Mr. Leech, have now an opportunity of seeing his little sketches reproduced in oil colours, and on a greatly increased scale. The present series consists of sixty-five pictures, selected from the more recent numbers of *Punch*; and on the walls of the Egyptian Hall may be seen specimens of the "Swell," the street boy, the modern young English lady, and that parental type "Paterfamilias," painted in a bold effective manner, the character of the original sketches being in most cases excellently preserved.

The annual dinner of the Architectural Association will be held in the Whittington Club, Arundel Street, on Wednesday evening next.

The annual conversations of the Institute of British Architects will be held on the 25th instant.

The arrangements for the great social science Congress are now complete. The proceedings were opened by a special service in Westminster Abbey, on Wednesday, when the Dean of Chichester preached. The members assembled in the Jerusalem Chamber previous to the service, and proceeded in a body into the Abbey. The opening meeting was held in Exeter Hall in the evening, when the president, Lord Brougham, delivered the address. To day the departments will assemble at Guildhall, at 11 o'clock, for the reading of papers and for discussion. The evening discussions at Burlington House on subjects of special interest are arranged as follows:—Friday, June 6—Education Department, National Education; Trade and International Law Department, Belligerent Rights. Monday, June 9—Punishment and Reformation Department, Convict System; Social Economy Department, Habitations of the Working Classes. Tuesday, June 10—Education Department, Middle-class Examination; Public Health Department, Effect of Occupations on Health. Wednesday, June 11—Workhouse Visiting Society, Report of Society. Lord Lytton will take the chair. Thursday, June 12—Jurisprudence Department, Marriage Laws of the United Kingdom; Public Health Department, Sanitary Statistics. Tickets for the entire meeting can be obtained at the offices, at 12 Old Broad Street, and Guildhall; and also special tickets, for ladies only, for the grand *soirée* in the Palace at Westminster on Saturday evening.

## TENDERS.

## WEST KENT INFIRMARY, MAIDSTONE.

For alterations and new wing to the West Kent Infirmary, Maidstone; Mr. Henry Bradford, architect.

Garnett and Briggs	£4,182 0	0	Cable	£2,787 0 0
Sutton and Vaughan	3,447 0 0		Chambers	2,440 0 0
Anscomb	2,803 0 0		Naylor	3,295 0 0
Chambers and Wallis	2,803 0 0			

The tender of Mr. Naylor, of Rochester, was accepted.

## WORKS AT ARNEY CHAPEL AND SCHOOLS.

Mr. John Tarring, architect, Backley.				
Woodward	£1,611 0 0	0	Dove, Brother	1,495 0 0
Ward	1,580 0 0		Green	1,424 0 0
Wood	1,577 0 0		Saunders	1,487 0 0

## CATTLE MARKET, COLCHESTER.

For the construction of a shed and other works, to complete the market.

Orrin	£317 0 0	0	Fovell	£254 10 0
Shepherd	316 0 0		Dobson	287 0 0
Huts	346 10 0		Lee and Baker	275 0 0

The lowest tender was accepted, and the whole work is to be completed by Saturday, 5th July.

## TUNBRIDGE WELLS.

For a detached villa residence, with conservatory, &c., Tunbridge Wells, for Captain Bingham, R.N. Mr. W. Bond, architect. Quantities supplied by Mr. Charles M. Strange.

Grover	£1,592 4 0	0	Messrs. Pank	£1,254 0 0
Pergie	1,561 8 0	0	Walker	1,905 5 3
Mercer and Camfield	1,550 0 0		Edwards and Walsingham	1,428 5 11

## WORMLEY, HERTS.

For building a new south aisle to St. Laurence's Church, Wormley, Herts. Mr. Joseph Clarke, F.R.A., architect, 12 Bedford Place, W.

Mr. G. F. Arnold	£848 0 0	0	Mr. Hunt	£651 0 0
Mr. J. W. Barnes	721 5 0		Messrs. Bowley, Brothers	746 0 0
Mr. Smith	654 0 0		Mr. Conant	516 0 0
Mr. Dickinson	655 0 0			

## LEICESTERSHIRE.

For rebuilding a portion of the tower and spire of North Kilworth church, Leicestershire. Mr. Joseph Clarke, F.R.A., architect, 12 Bedford Place, W.

Mr. J. Bromwich	£514 0 0	0	Mr. J. Law	£265 0 0
Messrs. Bowley, Brothers	570 0 0		Mr. J. Funn	370 0 0

## WORMLEY, HERTS.

For building new schools and master's residence, at Wormley, Herts. Mr. Joseph Clarke, F.R.A., architect.

J. W. Dickinson	£1,125 0 0	0	Hunt	£1,075 0 0
Mr. W. Barnes	1,121 0 0		Bowley	1,060 0 0
Croft	1,118 0 0		Arnold	808 17 6
Smith	1,080 0 0		Nichols	860 0 0

## JOHN ADDY'S CHARITY ESTATE, DEPTFORD.

For alterations and additions to house and schools for the trustees of John Addy's Charity Estate, Deptford; Mr. Joseph Loddard, architect.

T. O. Todd	£1,800 0 0	0	T. Radkin	£1,255 0 0
Mr. J. P. Coleman	1,584 0 0		W. T. Radkin	1,431 0 0
H. and C. Burt	1,562 10 0		W. T. Hunt	1,290 0 0
C. Hudson	1,550 0 0		T. O. Todd	1,275 0 0
A. J. Smith	1,530 0 0		W. Pearson	1,265 10 0

## ST. JOHN'S CHURCH, BATTERSEA.

Mr. E. C. Rains, architect.				
Marsland and Sons	£2,830 0 0		Nicholson	£2,560 0 0
Newman and Sons	2,511 0 0		Nash	2,367 0 0
Brace	2,075 0 0		Dove	2,865 0 0
Lacey	2,297 0 0		Shirrington and Cole	2,941 0 0

## NATIONAL SCHOOLS, LONDON.

For the erection of new girls' and boys' National Schools and class rooms for the district of St. Paul, Islington. Messrs. H. and J. D. Mathews, architects, 10 Chancery Lane, City. Quantities supplied.

Forrester	£1,215 0 0	0	Foster	£949 0 0
Bond	1,130 0 0		Nash	987 0 0
Stamery	1,130 0 0		Hill and Son	945 0 0
Tok	990 0 0			

The above include the value of the old materials of the present buildings.

## PUBLIC PARKS, SOUTHAMPTON.

For laying out ground in the public parks, Southampton. Messrs. Guillaume, Parmentis, and Guillaume, architects and surveyors.

Croft	£100 0 0	0	Croft	£98 0 0
Hewitt and Heman	100 0 0		Barnes	50 0 0

## HAVERLOCK ROAD, SOUTHAMPTON.

For making "Haverlock Road" through the Marlton's Park. Messrs. Guillaume, Parmentis and Guillaume, architects and surveyors.

Croft	£104 10 0	0	Barnes	£97 10 0
Hewitt and Heman	100 0 0		Cox (accepted)	95 0 0

## PREMISES, HIGH STREET, SOUTHAMPTON.

For alterations to the premises No. 5, in the High Street, Southampton, for Mr. E. N. Scott. Messrs. Guillaume and Co., architects.

For making "Haverlock Road" through the Marlton's Park. Messrs. Guillaume, Parmentis and Guillaume, architects and surveyors.	£270 0 0	0	Adams (accepted)	£254 0 0
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## COTTAGE, SOUTHAMPTON.

For erecting a cottage on the Belle-Vue Estate, for Mr. G. Cairnes. Messrs. Guillaume, architects.

Evans	£490 0 0	0	Philips (accepted)	£497 0 0
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## MANSION, NEAR TOTTON.

For erecting a mansion near Totton, without offices, &c., for W. F. Wingrove, Esq. Messrs. Guillaume, Parmentis, and Guillaume, architects.

Scott	£3,287 0 0		Gambing	£4,650 0 0
Phillips	3,175 0 0		Hull (accepted)	3,881 0 0
Futcher	4,555 0 0		Adams	3,783 0 0
Mercer	4,267 0 0			

## SHOP AND RESIDENCE, SOUTHAMPTON.

For building a shop and residence in the Above-Bar Street, Southampton, for A. Andrews, Esq. Messrs. Guillaume, Parmentis and Guillaume, architects.

Blackman	£1,562 0 0	0	Hull (accepted)	£1,046 0 0
Phillips	1,557 0 0		Adams	1,060 0 0
Adams	1,192 0 0		Evans	600 0 0
Bulley	1,604 0 0			

## A LODGE, MUSWELL HILL.

For erecting a lodge at Fortis Green, Muswell Hill, for Mr. H. Smith. Mr. F. G. Withdow, architect.

Langmaid	£420 0 0	0	Jeffs	£350 0 0
Finch	418 0 0		Cooper	333 0 0
Groutwood	375 0 0		James and Ashton	225 10 0

## STABLES, BAYSWATER.

For the erection of stabling, Westbourne Grove, W., Bayswater. Mr. W. Sim, Danes' Inn, architect.

Fab	£420 0 0	0	Cooper	£379 0 0
Cowland	391 0 0			

## THE CITY.

For the erection of three warehouses in Bow Lane and Watling Street, City, for William Vivian, Esq. Tilt and Chamberlain, architects. Quantities supplied.

Turner and Son	£3,529 0 0	0	Wills	£3,807 0 0
Laurence and Son	3,340 0 0		Brass	3,465 0 0
Full	3,667 0 0		Canton	2,287 0 0
Piper and Wheeler	3,553 0 0		Ashby and Sons (accepted)	3,338 0 0

## VILLA, BENWELL.

Tenders for a new villa at Benwell Park, for Mr. Joseph Carr. Mr. J. E. Watson, architect, Newcastle Square.

Messrs. and Capewell				
W. Gibson (accepted)	£1,060 0 0	0	J. & W. Gibson	£1,187 0 0
H. B. Reed	1,074 0 0		Edwards and Reed	1,170 0 0

## Thomas March.

Capacity—				
Burnaby	£598 0 0	0	Waite & Howard	£250 0 0
Dobson	565 10 0		Cowley	530 0 0
Stirling	634 0 0		March	£35 0 0

For building a portion of the tower and spire of North Kilworth church, Leicestershire. Mr. Joseph Clarke, F.R.A., architect, 12 Bedford Place, W.

For building a portion of the tower and spire of North Kilworth church, Leicestershire. Mr. Joseph Clarke, F.R.A., architect, 12 Bedford Place, W.	£100 0 0	0	Scott & Head	£92 15 0
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For building a portion of the tower and spire of North Kilworth church, Leicestershire. Mr. Joseph Clarke, F.R.A., architect, 12 Bedford Place, W.

For building a portion of the tower and spire of North Kilworth church, Leicestershire. Mr. Joseph Clarke, F.R.A., architect, 12 Bedford Place, W.	£155 0 0	0	Need	£197 0 0
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For building a portion of the tower and spire of North Kilworth church, Leicestershire. Mr. Joseph Clarke, F.R.A., architect, 12 Bedford Place, W.

For building a portion of the tower and spire of North Kilworth church, Leicestershire. Mr. Joseph Clarke, F.R.A., architect, 12 Bedford Place, W.	£97 10 0	0	Gibson	£115 6 0
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For building a portion of the tower and spire of North Kilworth church, Leicestershire. Mr. Joseph Clarke, F.R.A., architect, 12 Bedford Place, W.

For building a portion of the tower and spire of North Kilworth church, Leicestershire. Mr. Joseph Clarke, F.R.A., architect, 12 Bedford Place, W.	96 0 0	0	R. Richardson	118 11 0
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## COMPETITIONS OPEN.

## CHURCHES.

HOLYWELL, NEAR ST. IVE. For the restoration of Holywell church, near St. Ives, Hants. Plans, &c., may be seen at the office of Mr. Hutchinson, architect, Market Place, Huntingdon, who will receive tenders to June 10.

SOUTHAMPTON.—The churchwardens and church committee of St. Mary's, Southampton, are desirous to receive tenders for cleaning, colouring, painting, and repairing the parish church. Specifications may be seen at the office, on application to Mr. Leary, the architect, St. Mary's Street, on and after Monday, June 3. Tenders to be forwarded to Mr. R. E. Page, 55 St. Mary's Street, on or before Saturday, June 14.



## THE GREAT THAMES SEWER.

AMONG the essentials to our existence, next to air, there is nothing at once so necessary, so common, and of so little intrinsic price as water—pure water—yet how difficult it is to get, and what an enormous price is paid for the mixture of water and filth which daily finds its way into our houses! In towns it is usually taken from the nearest river or stream, which is at the same time generally considered to be a convenient deposit for the sewage and refuse of the town. In country houses, where the supply may be from wells, they will, in nine cases out of ten, be found sunk within a few feet, and of course at a lower level than, a farm or stable-yard, or, wanting one of these, near to a cesspool, or ditch, into which the sewage is conveyed, to remain during the summer months, a pestiferous nuisance, and in either case to percolate slowly, but surely, into the well whence water is drawn for domestic purposes. The fact is, we seldom drink pure water, and it is equally a fact, that there is no reason whatever why we should not be able to do so at all times. There is no difficulty in getting it; we have it supplied to us bountifully, and far beyond our wants; but we do what we can to pollute and render it totally unfit to serve the purposes for which it is provided. Take London alone—why pure water is unknown here, and has been unknown for many many years. We have built a vast city on the banks of a noble river of pure water, that is more than ample to supply every want, but the drainage of thousands of houses has been constantly poured into it, until it becomes absolutely useless, except for the passage of vessels. Then water was taken from a point higher up the river, where it was supposed to be uncontaminated; by and by, the water there was found no longer pure, and the point was shifted, and water conveyed thence to the metropolis, after being filtered and conveyed through pipes, at an enormous cost, leading to sad deficiency in the supply to certain poor districts. But in every attempt to take water from the Thames for house use, it seems to have been wilfully forgotten that everywhere along its banks, right up to the source, there are towns and villages which, though in less quantities than London, continue daily to pour into the stream, from which a large metropolitan and suburban district is supplied, volumes of drainage from streets, factories, slaughter-houses, and closets. The deposits then taken from the highest points, whence it went to London, and where, by what would be an amusing fiction, were it less injurious to health, it is supposed to be fit for the purpose, are sickening to a considerable degree.

Nor are the water supplies from sources independent of the Thames unobjectionable; it is impossible for any open conduit on the ground-level, which passes by towns and villages, and is at the same time used for the passage of boats, barges, &c., to escape being fouled.

It is, however, with the Thames that we have now to deal; and, with the main drainage works approaching completion, and the commencement of the Thames embankment, as we hope, drawing near, there could be no more opportune time for the present shameful condition of our river to be fully investigated, and for steps to be taken for its preservation in such a state as will make it what it should and might well be, a blessing and source of health to us, instead of what it has so long been, a generator of disease and death.

We are glad to know that a deputation, fully aware of these facts—indeed who is not?—has waited upon the Home Secretary to represent the urgency of the case, and to ask what the public are certainly entitled to. After the vast expenditure incurred in the construction of the main drainage works, it would seem altogether too bad that, having passed to convey the sewage of London into the Thames, the water at the mouth of the river should still be polluted by the drainage and refuse of the towns and villages above the metropolis; therefore the deputation very properly have asked, that government should issue a commission of enquiry into the condition of the Thames and its tributaries, the immediate district of the metropolis being excepted from such enquiry, as being already under special jurisdiction; to enquire what defects exist, and to report what remedies can be applied to such defects, having regard generally to all purposes by which the river and its branches, or lands adjoining to them, may be improved; the deputation asked that the enquiry should be especially directed to the purification of the Thames waters for the use of the metropolis, and of the towns in the Thames district.

The area of the Thames and its tributaries is estimated to contain 6,000 square miles, yet, as we have before pointed out, no systematic, or indeed any provision at all, has as yet been made either for regulating the several branches of the waters in the Thames basin on a common plan, or for deterring the towns and villages on the several parts of it from casting their sewage into the streams, and many towns, say the deputation in their memorial, we say nearly all, do so cast in the whole or part of their sewage. Besides the sanitary view of the question, there is another which may well be considered at the same time; it is, that the unregulated action of floods inflicts damage on

many lands adjoining the river; but in point of fact this also is part of the former question, for it is an ascertained fact, that the health of the population residing in districts subject to floods, is injuriously affected.

But, unfortunately, our hands are not even now quite so clean in the matter as could be wished. It is quite true that we are not going to continue to drain London into the Thames just at the point where it concerns us as inhabitants of the metropolis not to have a vast tank of fermenting sewage right in our centre; but we propose to do, and on a very extensive scale, that which the proposal for the enquiry contemplates preventing others doing. No doubt the deputation was immediately concerned with the state of the Thames at London in consequence of the practice of the towns higher up the river, rather than with the state of the water at any particular town, and London, no doubt, as being most densely populated deserves prior consideration; but what will be the sanitary condition of the district into which the sewage of this vast area is discharged? We have serious misgivings as to the practical result, and believe that the Thames will, sooner or later, be found to be not the proper receptacle for London sewage.

## THE SOCIAL SCIENCE CONGRESS.

IT is with some regret that we find the National Association for the Promotion of Social Science has, at the present, its sixth congress, devoted less consideration to sanitary matters than the importance of the subject demands. There is nothing of more consequence than health, since, without it, other possessions are comparatively valueless. The fourth department, whose province is "public health," has limited its attention chiefly to drainage; while the fifth, "Social Economy," treated of little more than dwellings for the working classes. We do not underrate the importance of either subject, but surely there are many other matters to which the Association might have directed attention. There is another point to which we must revert: we know not with whom it is left to decide what papers should be read, but certainly some discretion should be exercised in selection; and we are led to the remark from a knowledge that, in one instance, at least, a paper was read in which it was the author's sole object to obtain notoriety for a so-called invention, which he has long tried to bring prominently before the public by the aid of the press, and vainly, simply because the plan is utterly worthless, and the inventor a person who is not very particular as to the means he employs to force himself into notice.

Mr. RAWLINGS read an interesting paper on "House Drainage and Sewage," a subject with which he is well acquainted, and took occasion to remind his hearers that even in Belgravia, a flat district, the sewers are full of deposit, and that the trapping of drains is a "complete mockery, a delusion, and a snare;" and were it not for the escape of exhalations from the sewers in the streets, he predicted a fearful and raging epidemic. Not only in Belgravia are matters in this state—had enough for those who stay but a few months in town—but in poor, close, overcrowded districts, many alleys and courts, where people, pale and wan, live through their lives and never see the green fields, there are no sewers in which deposits can accumulate, no drains to be trapped, but simply a cesspool, often uncovered and as often overflowing. This is the direction in which effort should be made, at the same time that the exhalations from the Belgravia sewers are shut in, in which have been sending some unwary passengers over there to a sick-room, perhaps a death-bed.

Are there no other evils to which a department considering public health might devote some attention, forcing on sluggish vestries and other authorities a conviction of the necessity of a change from the olden customs? How far is the dust of our streets, when raised in clouds by a March wind, or such winds as we have had lately, and blown down our throats, conducive to health? Who looks upon street-watering as anything more than a pleasant idea that he would like to see carried out as regularly as the collection of the rates for it? Then there are our cabs and omnibuses. Is no reform needed there, having regard to public health? How many have suffered for years owing to the difficulty of finding a public conveyance? In the matter of building, too, it is most injurious to health to live in damp houses; perhaps on a clay soil, with the floor joint touching the earth, and a mock dry area which serves to keep the basement walls damp rather than dry. Then the walls of half the houses erected by speculative builders are plastered with red mud, or "scrappings" used instead of sand, and full of animal and vegetable matter decaying and decayed. These, and many others that need not be particularised, are matters for which there is no legislation. The only remedy is to be found in publicity in every possible direction, and we trust at the next congress to find that the Association have more fully recognised their importance.



tinguish this part of the apparatus from the *ratchet* feed originally used in sawing frames, and to which it is far superior both as regards quietness and exactness of action. It is the subject in itself of a patent. The patent silent feed consists of a wheel corresponding to the old ratchet wheel, but instead of being indented, or serrated on the rim, it has a V groove turned on its periphery, into which is fitted an eccentric V fall, to which motion is communicated, as in the ratchet system. When moved forward, the V edge of the fall passes against the sides of the groove in the wheel, and by the silent force of friction compels it to move forward, and thus yreps the timber. Another V fall working upon a fixed pin is added, and this answers to the "dead catch" of the ratchet feed. It is clear, therefore, that by this arrangement the timber may be advanced at any rate of speed with the bar, and, therefore, represents most important improvement.

Another patented improvement in this kind of sawing machine consists in attaching the frame to the crank by means of two connecting rods. One of these passes on either side of the swing frame, and thus compactness, and consequent economy in the cost of foundations are effected. The parts of the contrivance requiring great strength, such as the swing frame connecting rods, cross-head, the jaws of the timber clips, &c. &c., are made of wrought-iron, and thus it is capable of carrying on any size of timber of its width. Thus the 36-inch frame will work with 36 saws, and the same rule holds good with any other sized machine.

The Double Deal and Planing Frames are constructed after the above plan, with some slight modifications, whilst Portable Deal Frames are made, as their name implies, for ready movement to any place where their services may be needed. The Venerable old frame of course remains in the form, and in the same place, we believe, which has been fitted up by Worsam and Co., is 8 ft. in diameter. This consists of a cast-iron disc, keyed upon a wrought-iron shaft of sufficient strength. The disc is turned perfectly true, and to it are screwed a series of wrought-iron plates, intended to receive the saw segments. These latter are attached by copper screws, and they may be readily removed in case of accident or otherwise. The segments are ground to a thin edge by means of a lap made for this purpose, and which usually accompanies each machine. Below is a travelling carriage for feeding forward the timber.

Circular Saw Benches of every size, and fitted with saws of every pitch of tooth, to meet the varying requirements of the workshop, are to be found in the establishment of the firm in question. Perhaps the self-acting saw-bench is the most generally needed of the series, and there are many points of detail about it which deserve a more extended notice than we are at present able to give them. The rate of speed may be made to vary with the character of the material dealt with, but from 12 ft. to 15 ft. per minute is that at which the feed is usually arranged. One of these benches will cut 2,300 superficial feet of deals in an hour. Thus much of the Sawing Machinery of Worsam and Co.; and now let us notice some of that employed in the performance of alterations upon buildings. The first appliance of this second series which invites attention is the Roller Planing Machine. It is intended principally for acting upon floor-boards of soft wood, and these it not only planes, but grooves, tongues, edges, and reduces to uniform thickness, at one operation! The plane-iron is fixed in plain cast-iron drawers, and are easy of removal or adjustment. The pressure of the board while passing over the plane-iron is regulated by means of a number of small rollers, and these are so effective that the boards require no finishing after leaving the machine. Its productive power is great. The Chain Planing Machine is another contrivance of a cheaper kind than that just referred to, and used for similar purposes. It is more servicable in the case of thick boards than this one, and is less productive. Other modifications there are of wood planing machines, all exhibiting considerable ingenuity, but they cannot here be individually noticed.

A remarkable machine is that for carving, moulding, and shaping irregular surfaces. This is constructed on the copying principle, and a dummy or feeder is made to move over a pattern, and thus govern the movements of the cutting tools. It is peculiarly adapted to the requirements of cabinet-makers and coach-builders. It is also useful in planing and shaping Gothic and other building ornaments, and in the construction of similar and similar purposes. What is termed a Moulding Machine, is another ingenious application of mechanical means for accomplishing ornamental effects. It is principally adapted for making wavy or zig-zag mouldings in hard wood, for pianofortes, cabinet-work, &c., or for cutting imitative basket-work for carriages. A template or copy plate is used in this instance, and the wood to be moulded is fixed upon a cast-iron rack travelling bed, which vibrates at the required speed under the cutters. The result is an exact imitation of the pattern, of whatever kind it may be.

Mortising Machines of various kinds go to make up the complement of Messrs. Worsam's wood-cutting machinery, and these, as may be imagined, are not dissimilar in principle to the slotting machines of the engineer's shop. A very beautiful contrivance, known as White's Dovetail Machine, is described by the firm, and which is a most valuable and similar to this is the only one yet invented that is adapted for the finest descriptions of cabinet work. It is of almost too complicated a nature to be described without illustration, but it may be stated in its behalf, that it will finish off dovetails in any kind of wood in less time than would be occupied by an ordinary workman in setting them out. It must not be imagined that we have mentioned more than a moiety of the wood-working machinery of Messrs. Worsam and Co., for their mechanical facility has been devoted, and successfully devoted, to the creation of machines for performing all the processes in relation to wood-work, known to the carpenter, the cabinet-maker, the coach-builder, and the joiner.

Great in the same department of industrial economy are Powis, James, and Co., of the Victoria Works, Blackfriars Road. This firm exhibit in the Western Annex numerous specimens of their admirable machines for metamorphosing rough timber into all the multifarious forms which our high state of civilisation demands. The useful, ornamental, and architectural shapes into which wood has now been brought in the fittings of our dwelling-houses, appear to have been levelled by the hands of the gods, and James, and nothing in this direction seems to be beyond their power. They have constructed machines of peculiar excellence for sawing, planing, mortising, tenoning, relating, and carving wood. Their horizontal steam engines for putting the woodcutting machines in motion are well adapted to their purpose, being at once simple and inexpensive.

To railway companies, or wagon makers, it may be particularly interesting to know that Messrs. Powis and Co. have devised a Double Tenoning Machine, whereby both sides or ends of two wagons may be completed in one minute from the time the cutters strike the wood. This is a triumph in the art of automatic woodcutting undoubtedly, and one which those interested will know how to appreciate. The Band-Sawing Machines of this firm are remarkable for their adaptability to a great variety of purposes, and are justly prized by those who enjoy such contrivances. In fact, it is probable that in this department Powis and James are unrivalled. They have patented a plan for preventing the breaking of the saws, which occurrence was attended with much danger to those who were using them, and at the same time regulating the amount of tension necessary for their exact action. This contrivance ensures steadiness and regularity in working, and because it acts mechanically and with certainty, the saw breaks and splinters, what may be termed the "slack" is taken up, and as it cools its contraction is accommodated.

Other machines and other manufactures in this branch of mechanical art must await another opportunity for a visit to the Western Annex. The subject of woodcutting machines, is one of so much consequence to our readers, that we feel assured they will thank us for directing their attention expressly to it.

#### THE CHEMISTRY OF BUILDING MATERIALS IN OUR INTERNATIONAL EXHIBITION.

OUR readers must not suppose that it is our intention to devote a page of this journal to technical chemistry, or enter into the details of any delicate analyses performed by our savans. Yet we would call their attention to this most important branch of the science, and ask for a more careful consideration than has hitherto been bestowed upon it in its relation to the requirements of the building profession generally, and the development of that progress which alone is the indication of the progress of the energy of our age demands from every profession as its share towards the universal standard, Excellence. In some of the discussions of our various Architectural Societies, we have been surprised at the ignorance tacitly displayed of the first laws of this beautiful science by the evidence given to many statements put before the public by ignorant charlatans.

How many aids of a most valuable character might be rendered available to those who should be in a better position than any as judges of the adequacy of the auxiliary to meet their requirements? Why should the architect be at sea with regard to the quality of a stone or the part of a quarry from which to choose his blocks? or why should an amorphous stone be only discovered to be amorphous when it has deteriorated one of our finest edifices, and become the blemish of the nation? Why should our builder be at the mercy of his merchants who supply materials on credit, without knowing or caring for the circumstances under which they are to be used? Why should the artisan not know the peculiar qualities of the bricks, limes, and cements that pass under his hands, and the best treatment of them, to secure their durability and perfect fitness for the position they are to occupy? We are fully aware that the several branches of the profession have their men of careful and attentive research, but we opine that if many more were engaged in the study of the science, that has been the basis of science that bear directly or indirectly upon their profession, we should see most satisfactory, not to say startling, results arising therefrom.

Perhaps none have had more to do with the product from which so many brilliant results have been obtained to adorn our Class 2 in the International Exhibition than our readers themselves, and whilst viewing the Magnets or Acetate of Rosaline cements, most often be reminded of that gorgeous film of surpassing beauty in its rainbow radiance, the indicator of the presence of tar upon the surface of water in the bucket or the stream. Many are the utilitarian results builders have secured from the use of tar, but a pleasing degree of astonishment, we think, will follow an examination of Mr. Perkin's and Messrs. Maule and Nicholson's cases. The alum in the trophy will recall the progress in the manufacture of cements from gypsum, this having been the first result of the efforts to harden the so-called plaster of Paris, the Bernal Septum will show the next step, that being one of the constituents of the Parian; and still further progress has provided sulphate of potash instead of sulphate of alumina (alumina in the cement so well known as Martin's cement, the greater insolubility of the latter salt producing the results that appear in its favour. Aluminium, the highly esteemed substitute for silver, shown by Bell and Co., reminds us of billions of tons of waste that have been the blemish of the elements of that base (clay), and its combination in the form of the oxide (alumina) with so many of the substances with which he is called upon to deal. A series of most useful products are exhibited by Bartlett Brothers, of Camden Town, consisting of this alumina and its





## LABOURERS' COTTAGES, AND THEIR BEARING UPON ARCHITECTURE.\*

(Continued from our last.)

NOW the actual amount of accommodation for the labourer is soon settled. He wants a living-room, a kitchen, and a pantry on the ground-floor, and three bedrooms above, with out-house for coal, office, &c.; or, to describe the ground-plan, as it is mostly and bestly used, as a kitchen, which is also the living-room and the largest room in the house; and a washhouse, which serves as a back kitchen in the summer, and which, if we were speaking of a large house, we should call the scullery. There is the pantry besides, and, if possible, a closet under the stairs. This is the ground-plan required.

The point to be kept in mind in distributing the rooms of a cottage is, that the labourer can only afford one fire at a time; and, therefore, I should not hesitate to put his cooking-range—where it is of the gravest import should be a real kitchen range, with boiler on one side the fire and oven on the other—into the largest and best room—the living-room of the house—room in which the family sit down to their meals, and around the hearth of which they gather in the winter evening. In common speech this, in the midland counties, is called, *par excellence*, "the house," and this is the real home of comfort. In order to make this to be so used, the back kitchen, scullery, or washhouse (call it which you will), should be of such small dimensions as to preclude its use as a general cooking or sitting-room; for, wherever it is large enough to be so used, it will invariably be occupied to the detriment of the other room, which will then be preserved in its musty finery, and damp unsuited atmosphere, for dress occasions only of fair or festival, or Sunday company.

There is a wretched fashion which pervades all classes of English people—intensifying as it descends in the social scale—of reserving the best and largest room in the house as the one to be least used, and seldom enjoyed. I know of nothing more forlorn and dismal than to be shown into the finely-furnished, stagnant, airless, and gloomy drawing-room, where you feel in an instant that no foot has trodden since the servant came to open the shutters—not the windows—in the morning. The unpleasant sensation of being shown into a company-room is as bad as being received with company manners; and, common though the practice be, there is something about it altogether dissimilar to the English notions of Comfort and Home. My rule would not be afraid of the great showy drawing-room, where there are really state apartments too large for general occupation. But in all houses below that class, I would say, "use your largest and best room ordinarily for the benefit of your family and your everyday friends," eschew the dull magnificence of a company-room. Never mind if your furniture gets a little rubbed; chairs were made to be sat on, carpets to be walked on, but not to be looked at. But you are afraid of the children breaking your glass-shoes, and sweeping off the table, or nervous dyspepsia? That is all nonsense; let them play with the ornaments, placed under the one or on the other, and away they go with them, there is no great loss. A single glazed cabinet may hold all your things really precious, and if the rest of the decoration of the room be such as will bear ordinary storage and knockage, it will be introducing a far more manly and wholesome style of ornament than the wretched ornate and papier maché frippery which now too commonly crowds the tables and mantelpieces of our drawing-rooms, especially of new-married people. Or, if the result should be that the children of the rising generation be brought into better order, and made to respect the amenities and decencies of drawing-room life, it will be no private or public disadvantage, and perhaps will be useful in modifying the somewhat rampant characteristics of the young England of the present day.

I may mean to be travelling away from my cottage subject; but if I can get hold of principles of general application to all classes, it will have greater weight on any particular case, and I shall not be laying down a law for the cottage which I would not carry out in the mansion.

My object, then, is not to allow of a company-room in my model labourer's cottage; for it necessarily entails a sloppy, untidy, uncomfortable, everyday existence in the washhouse or scullery; but if you make this latter room so small that it cannot accommodate the family at all times, if you put the kitchen-range in the best room, have only a small hearth in the scullery, with boiler and sink, then you make this back-room what it should be, the place for washing, slopping, and "doing," as they say, "their jobs in," and you force the family to live ordinarily in the largest and wholesome room, which necessarily results in a more comely observance of some rules, and helps to elevate the whole household in their social relations. The really tidy, good housewife, the good mother who takes pride in the cleanliness of her pets as well as of her pots, and likes to see her family in substantial comfort around her, will prefer this arrangement, though it implies a little more method, and entails a little more labour, to keep all things in their places in a room constantly occupied.

It is the slattern who, in her new dress, for the sake of Sunday's finery, is content to go all the week in dirt and discomfort. In a plan on the wall, it is proposed to carry out the idea by making the living-room, in front, 14 ft. by 12 ft., with the scullery 12 ft. by 8 ft. (by the projection of copper, sink, &c., reducing it almost to a square of 8 ft.), and the pantry, which is full large, 7 ft. by 6 ft.; but the coal or wood house might also, and with advantage, be combined, and so the expense of these as out-buildings be saved.

The reason of the scullery and pantry being drawn even as large as they

are here is, that with a less ground area you cannot obtain the three bedrooms above, which are now rightly considered indispensable for a good cottage. That the parents, the boys, and the girls should each have a separate bedroom, is now deemed imperative in all well-ordered cottages; and I would not say a word against such a requirement; but I do think that the evils of crowded bedrooms have been, as affects the morals of the poor, rather exaggerated by those who look from what the Quarterly Reviewer calls "a dressing-room point of view." It is rather on the side of health than of morals, that I would ask for the area of three bedrooms; and I believe that where the parents' chamber is between that of the boys and girls, a curtain may be used as serviceable as a thin wall partition. Certain it is, that both thoughts and habits of decency can accommodate themselves much more to ill-arranged dwellings than those who are accustomed to the absolute privacy of bedrooms are wont to do. The pure and chaste morals of the lower Irish in their huddling bedroom arrangements are a remarkable testimony to this fact. But admitting the necessity of three bedrooms, the great evil of cottage building has been to get them of insufficient size over the ground area required for the living-room, scullery, and pantry. In trying to accommodate the one story to the other, either the bedrooms have been cramped to a most inconvenient and unhealthy size, or the scullery has been enlarged, so as to make it become the general living-room, at a waste of space and money.

A plan before you, I think, takes a middle course, making the three bedrooms respectively 12 ft. by 9 ft.; 12 ft. by 9 ft. 3 in. in the widest part; and 11 ft. 2 in. by 8 ft. 2 in., with a corner taken for the stairs. The two larger have fire-places, and there is a separate entrance to each. One is set down the accommodation required for the married agricultural labourer, and consisting on the ground-floor, of 1. Dining-room or kitchen is one; with range containing oven and boiler, pot-hooks, cupboard, light convenient for cooking, that is, on the side not facing the fire-place. Superficial area not less than 165 ft. 2. Scullery with sink, copper, small hearth, fire-place with outer door communicating with back yard, and another door communicating with passage, or, better, with living-room. Superficial area 96 ft. 3. Pantry, with shelves and room for beer cask, window opening into the outer air, in communication with passage or scullery. The three bedrooms, respectively, two about 108 ft. and one 90 ft. In round numbers, an area of about 340 ft. on each floor. The height of the lower rooms 8 ft.; of the bedrooms the same, or 9 ft. 6 in. on the walls, and 10 ft. in the ceiling.

The best arrangement of this number of rooms is the one which allows of an outer porch, with inner lobby or passage, giving independent access to stairs, kitchen, pantry and scullery, with landing upstairs admitting separate entrance to each of the three bedrooms.

It may be doubted whether this arrangement of separate entrance, deemed so indispensible in a middle-class house, should be regarded as necessary in a cottage. It is certain that the labourer does these things for himself as much about it, and seldom complains of the door opening direct into the living-room—of the stairs going out of the living-room or the scullery—of the bedrooms opening one into another; but when we are seeking a model plan, it is as well to get as perfect an arrangement as we can, and one which will help to foster habits of order, and akin to what has, from its convenience, been sanctioned by classes higher in the social scale.

What the poor do complain of—and too often with reason—is in the new cottages which have been provided for them, is the thinness of the walls, the cold draughts, and the smoky chimneys. I will go, therefore, into some details on these heads, saying a few words first upon the site.

I need not speak of the soil, because we must take that as we find it. Of course, we should prefer dry, gravely ground, where we can procure it, as much for the cottage as the hall. We should require, also, how the ground lies for drainage, and for a supply of water. But one rule of survey, applying to the cottage, is directly the opposite to that of the mansion. In the great house we want the south for flower-garden and private use, and so contrive the public entrance anywhere but there; but in a cottage, which can be entered on one front, we should always, if possible, get this to the south—the door opening to the south, and the window of the living-room having the same aspect, looking upon the little garden of herbs and flowers, with the wicket upon the road, about six or eight yards off. The increased cheerfulness and comfort of a cottage so placed can hardly be overrated. There is no single drawback, that I know of, to this arrangement. It throws the main axis of life into the living-room, gives the south wall for the vine or the apricot, and the flowers and herbs, and the hot washing work, and the little ladder, to the northern or cool aspect.

The foundations of the walls should be deep enough to admit of the joints of the boarded floor—which I should like that of the living-room to be—being laid with right inches, at least, hollow beneath, and with air-bricks in the basement course. Above all, immediately below the floor-level, the whole of the walls should have a layer of slate, laid in cement, or of asphalt, so as to prevent the damp rising into the walls, which should never be omitted in any building, is most imperative in a cottage, where the presence of damp is too often the evil spirit that paralyses the strength and support of the whole family; and yet, though the cost is scarcely appreciable, there is no preventive officer neglected than this.

Equally fatal to the comfort, health, and whole economy of the cottage, are the thin walls always used by speculative builders, and too often by those, also, whose aim is the increased happiness of their tenants and people. No common 9-inch wall, in an exposed situation, will keep out draught and cold; but hollow bricks of that thickness, or the same amount of bricks used hollow, and making eleven inches of wall, will suffice. I have drawings here, showing how bricks may be so used; but the difficulty of

\* Paper read by the Rev. Canon JAMES, at the Architectural Museum, South Kensington.

getting common bricklayers so to use them is, I know, excessive; and, from their inactivity to this kind of construction, a most disproportionate expense is added to the estimate. If we could once get our bricklayers out of the groove of the common solid 9-inch and 14-inch work, the extra material and labour required for 9-inch, 11-inch, or 12-inch hollow walling would achieve a most important advantage, at a comparatively small cost. Contrary to what is usually recommended, I should plaster the living-room and the bedrooms within; and if I could only get 9-inch solid walling, I should paint it on the outside, so as effectively to keep out the damp.

Where stone can be procured as cheap as brick, it should be used, as necessitating a substantial thickness of wall; but I am convinced that, where it is the custom of the country, there is nothing so effective for cottages as mud walls. In the milland counties, I am sorry to say, they are disappearing; and there are many parts in the south and west where the old method is kept up, with some improvements introduced. But the art of building these walls, so local, and so dependent on the material at hand, that, though I could wish, for the sake of their warmth, to see them generally extended, I am hardly hope it. But some method of "post and pan," or of concrete, using the common soil for the main substance of the wall (as, I believe, is common in Eastern countries), might surely, if attention were given to the matter, be made available, as the cheapest walling for any locality.

(To be concluded in our next.)

#### ARCHITECTURAL ASSOCIATION.—MR. R. P. SPIERS ON ARCHITECTURE IN NORMANDY.

(Continued from our last.)

CÆN is the most interesting town for the searcher after the finest specimens of Norman architecture, possessing as it does the two largest churches founded by William the Conqueror and Queen Matilda. The first of these, l'abbaye aux Hommes, known by the name of St. Etienne (St. Stephen), has the form of a Latin cross. The side aisles are carried round the choir, where there are chapels annexed. The nave and transept were consecrated in 1077; the choir is later, and has circular arches crowning the apse, thus forming pointed arches. The whole of the nave is rib-vaulted with circular arches. The towers, which are of the eleventh century, had spires added to them in the thirteenth or fourteenth century, at which period there was a further addition made to the building of four towers and spires at the east end. The central tower is of the fourteenth century, and suffered much from the cannon balls of the English during a siege, l'abbaye aux Dames. Holy Trinity, though inferior in size and position, is the last named building, yet has more genuine Norman parts about it, and has been also added to, than St. Stephen's. The choir, which is very fine, is circular, decorated with a double row of circular-headed arched springs, the arches being supported by detached columns. The central tower is of the thirteenth century, with a fifteenth century balustrade. The western towers, which are unadorned except by a narrow coping of the sixteenth century, which M. Rupprecht Robert, the architect, has recently replaced with coping balustrade and spires similar to those of the Abbaye aux Hommes. St. Pierre, the church of next importance at Cæn, is of various epochs. It possesses the most elegant spire in France, of the fourteenth century (dating from 1308, and being 200 feet in height), and the richest choir of the sixteenth century. The nave and side aisles are of the fifteenth century, and there is a beautiful western facade of the fourteenth century. The oldest church in Cæn is that of St. Nicholas, the most ancient part of which is extremely simple, having no ornament or decoration whatever. The chancel is covered with a conical roof in stone, and which is of late date than the chancel itself. The tower, which is of the fifteenth century, is an elegant structure. This church is no longer used for religious services, but has remained a residence of the nobles, near l'abbaye aux Hommes, is nearly in ruins, but is extremely interesting by English architects, the structure having some beautiful carving of the fifteenth century. The church of St. Leger, which has a fine tower of the thirteenth century, resembling that of St. Pierre. The two chancels, one of the fifteenth and the other of the sixteenth century, are interesting objects, and standing boldly out in the principal street of Cæn, form a pleasing picture, often sketched by artists. St. Jean has two towers, which incline slightly, like the tower at Pisa; the church has been built on to it whilst in its leaning position, and the effect in the interior is very curious. There are three or four other churches in this neighbourhood well worthy of a visit, especially that of Vancelles, which has a fine though small Norman tower, and a lofty fourteenth century choir. The Manoir des Grandmaires is a structure which, perhaps more frequently visited than any other building at Cæn. It has two towers, connected by a long wall with battlements, and is of the sixteenth century. There is a series of medallions with heads sculptured on the battlements, and are supposed to be portraits of persons existing at the time of their creation. The Hotel de Ville was built in 1537. Cæn is a very clean town, though it has but few flagstone pavements, and can boast of meadows and promenades similar to those at Tunst Church, (Ireland). It contains a large chateau, with fortifications and a dry moat. The lecture proceeded to state that from Cæn he had made another excursion, visiting some of the villages he had missed in his tour from Bayeux, and others which lay more to the north-east. The choir of St. Contest, which is vaulted, is Norman, but some of the arches being pointed indicate the transition epoch. The tower is of the twelfth century, and the nave of the thirteenth. Lessau has a very pretty example of a

private chateau of the sixteenth century, the wall being decorated with delicate pilasters. The mouldings are rich and elegant; there is a strong feeling of carving, and the chateau is decorated with carvings and paintings, and above it a parapet. The chateau possesses a fine circular-headed window and large chimneys which denote the time of Francis I., sixteenth century. In a billiard-room on the first floor is an exceedingly rich wood-panelled ceiling, coloured and gilded, resembling those of the ducal palace of Venice, and supposed to be the work of an Italian architect. The church is nearly all modern. There are five churches—one new, and having nothing remarkable about it; and the others which are falling to ruin, but which are a very fine and beautiful structure. The latter is composed of a central nave, lofty choir, and tower. The tower has two stories, and is pierced on each face with a circular arch and two openings. There were originally side aisles, which have been suppressed, and the nave arches are blocked up. The walls are decorated with a series of blank arcades, and a flat Norman ornament. The church of Fontenay Henry has a very beautiful Norman choir, and the nave is modern. The chateau, which attracts most of the visitors, is an interesting structure, of many epochs; its decorations comprise the most beautiful and delicate work. The chapel belongs to the close of the thirteenth century. The walls are decorated in the interior with a series of arcades, carried by small columns; and between each is a seat, hollowed out in the stone. In the sixteenth century the nave was vaulted with low segmental arches, carried by columns descending into the nave. There are three elegant windows pierced in the chancel. Colombiers has a well-preserved tower of the twelfth century, pierced with circular-headed windows, which are very elongated, like those of the thirteenth century. The church of Ver has two very distinct parts—the choir and tower, of the twelfth century, and the nave of the thirteenth. The old Norman door, on the west, still remains. Above the southern door is a relief of St. Merthin Cutting his Cloak. A similar has relief occurs in two or three other churches, and they are of the sixteenth century. Comaculus is famed for its system, which are of a very large size, three or four being sufficient for a meal; and yet they only cost, at that place, from three halfpence to two-pence a dozen. Bernières is one of the most important churches of the arrondissement of Cæn, having an elegant and lofty tower, of the thirteenth century, the top of which is a very beautiful porch, of the thirteenth century, 80 feet high, and is the loftiest tower attached to any rural church in Normandy. The third, fourth, fifth, and sixth arches of the nave are Norman; the first and second seem to have had their columns replaced, or else they were added at the end of the twelfth century. The whole is vaulted, the first and third divisions pointed, and the others circular. The choir is of the fourteenth century. Lessau possesses a very pretty cruciform church and tower. Here, again, there is a difference in the style of the divisions of the nave; the first three arches are circular-headed Norman, the five following pointed, and they are carried by huge cylindrical columns. The lower part of the tower is of the thirteenth century, and the upper part of the fourteenth. At Lion is a picturesque chateau, of the sixteenth century. Hermauville has a pretty tower of the twelfth century—nearly the only one which has neither a nave nor choir. The nave of the church is probably from the first half of the sixteenth century. Quistichien has a central tower, and very lofty choir, with an imposing facade of four stories. From Cæn, on my return home (continued the lecture), I visited Lisieux and Evreux. The first of these towns has a very fine church, that of St. Pierre. It has two towers on the western facade; and though built about the same time, their construction is very different—one being Gothic, and the other Romanesque, but both being on a Gothic base. The nave, transept, and side aisles are of the same date as the facade—the latter end of the thirteenth century. The choir, which is a very fine one, and central tower are of the fourteenth century. There are several finely-carved wooden houses in the town, of the fifteenth and sixteenth centuries. The Cathedral of Evreux dates from different periods—the most ancient portion being the lower part of the nave, which is of the eleventh century. The transepts and choir are of the fifteenth century, and the towers of the sixteenth or seventeenth. The eastern end of the church is very fine, both in the interior and exterior. There is much beautiful carved woodwork in the screen which separates the chancel and its side aisles and chapels from the church. The Town des Anglais is an isolated town of the fifteenth century; but it has a church, that of St. Taurin, which is interesting, owing to the different dates of its construction. The nave and choir of the nave are circular, and of the eleventh century, while others are pointed, and of the fourteenth century. There are some remains of Norman arches in the south transept. The Bishop's Palace is an interesting structure, of the fifteenth century; but (said the lecturer, in conclusion), as winter was setting in, it was prevented from visiting it, as well as other parts of the town, and set off for Paris.

#### FOREIGN ARCHITECTURAL DRAWINGS IN THE INTERNATIONAL EXHIBITION.

THE International Exhibition of 1861 was almost exclusively an Industrial display. Two out of the three higher branches of art were represented there. It afforded us an opportunity of seeing some of the best English architects or of English painters with those of foreign artists; and our sculptors were favoured more, perhaps, because their works were peculiarly suited to the embellishment of the building, than from any desire of testing their ability. We can hardly think, from the specimen which the Commissioners of 1862 have given us in the building itself, that they have any particular love for, or taste in, architectural matters; but as wall-space had to be

provided for pictures, the claims of architecture could not be repudiated. We have consequently abundant evidence in the building that the "huge shed" is not a representative type of modern English architecture, and that Captain Fowke is not in the first rank of British architects. Every clod of soil, has its history, and to an army of architects, the mud is more brick-stack, a "bearded visage" which "rather threatens than 'doth promise aught,'" we have only to enter the architectural galleries in order to forget it. The display on the English side is really a noble one. The same independent study which characterises our paintings, is seen also in our architectural designs. Extreme liberty of thought, and almost contemptuous disregard of the teaching of any particular school, gives a peculiar interest to them. We see here a body of architects working according to a professor's instructions, or looking at precedent through an uniformly tinted glass; we recognise no common drill to which all have at some time or other submitted; but the labours of men who read the great lessons of art, and interpret them each after his own fashion, and who march without being keeping step with each other, but still unfettered—to their object. Hence what we see in mass we gain in value. There is less evidence of facility, but more of force; less harmony, but more picturesque. If we occasionally show works which no foreign architect with his course of education could produce, we, at times, scale heights which they cannot climb, and pass them at a bound when they are patting forth their full strength. At Hamburg we were surprised, and at Liege we astonished them. Wherever we have met men who have proved ourselves worthy rivals and yet, there is no looking, the fact is, a body of men of half-education, and no comparison with foreign architects. In proof of this we would ask simply upon how many of us has the study of figure-drawing been enforced? There are few of us who can sufficiently delineate that portion of the ornament in our buildings wherein figures are introduced. We fall back too often upon professional architectural sculptors, and leave them to elaborate our general conceptions. Our designs occasionally fail by their deficiency in this respect, and their eccentricity in others, provoke a smile from the more accomplished foreigners. Their designs never affect us in that way. They may be tame and weak, but they are never simply contemptible. They have always some trace of the skilful hand and of the cultivated mind. If foreign architects follow too frequently, to suit our insular notions, a beaten track, the grove they run in has been destructively cut, and they do not start upon their course before they have manifested a certain degree of capacity for it. The strict examination which all of them undergo, and their training for it, shapes no doubt their after development. Our exemption from it produces that unbridled diversity seen in all our public and private buildings.

The difference of our respective governments, and the different objects with which public buildings are erected, here and abroad, tend still further to mark the character of our architecture. No better evidence can be given of the influence, for good or for ill, which a government or a monarch has upon art, than a reference to the modern buildings of Munich. They have been chiefly erected by Von Klenze, one of the ablest of living architects. When he worked under the inspiration of the ex-king, he produced something like feeble copies of great originals. His version of the Loggia at Rimini and the Fieschi Chapel at Genoa is about on a par with the comical reproduction of the Chorgemeinde of the Lyceum on the Regent Street Chapel, or of the employment of the Jupiter Statue columns on a London shop front. The "Art Monarch" threw the same dark shadow upon painting as he did upon architecture. Artists could not show their heights, when they were commanded to stoop to a monarch's caprices. In the minor buildings of Munich, and in some public ones, for which he was referred to Italy, he employed in which he was himself a free scope. Von Klenze showed the great ability which has made his name known throughout Europe.

The sameness of modern French architecture is likewise the result of political circumstances. Conceived on a grand scale, the works have been forced forward upon a common plan, the main object being to afford good employment for any military or naval expedition that might be desired, to sweep away all narrow and troublesome quarters, and at the same time to furnish employment for men whom it would be dangerous to leave unemployed. The regularity of the streets and houses, and the hurry with which they have been erected, have, however, given little scope to the talents of French architects. They have refined the old Franco-Italian style, and in isolated spots in Paris, it bursts forth with charming freshness and vigour. There is more especially seen in the works of Visconti, of Dubary, of Amadour, and in what is called the artist's quarter. In the long lines of the Rue Rivoli and the Boulevard de Sebastopol, the fire of French architecture seems to have "in pallid moonshine died," or only to flicker here and there in the sculpture of ornament and in the transposition of balconies. The French restorations of old Gothic buildings betray only too plainly their insincerity to their benefactors. The same is the fault of their architects. Viollet-le-Duc's labours alone are sufficient to redeem them from that imputation. It results rather from the political necessity of doing the work, and of the vanity for coating the whole of Paris with a veneer of magnificence.

French architects seem generally to devote themselves to infusing a greater degree of refinement than it has hitherto possessed to Roman art, or rather to that style from which the moderns have derived the most rapid growth in France. However much it may by individual talent be occasionally disguised, it is the study of Greek monuments which has pruned the struggling coarse ornament which made up the "magnificence" of Louis XIV. One end of the line which strings modern French architecture together is seen in the Pompeian House of Prince Napoleon, the other in

the designs of Amadour. Both examples are very clever; but there is a vast amount of very different and indifferent stuff between them.

The Germans seem to have adhered more rigidly to the Greek models in their public buildings. Schinkel, in his many designs for public buildings, and notably for that of the Museum at Berlin, has laid it as a rule, never to be surpassed by that of modern architect, and equally only by the design of the Walhalla near, and the Glyptothek at Munich, and, perhaps, by Elmes, in St. George's Hall, Liverpool. In their ordinary street architecture they betray a close analogy to that of France; and the drawings of the students of the Academy sent from the Berlin Academy to Brompton might really be mistaken for those yearly seen at the "Beau Arts" in Paris. Their Gothic architecture is more local, and less likely to make an impression on our tastes. The new growth does not seem to have yet ripened there, although we must candidly admit that there are drawings in this style in the Austrian gallery, which we never anticipated seeing. The Votive Church, Vienna, by Heinrich Fretzel, is portrayed in a series of drawings which are unsurpassed in the whole exhibition. They are not only on a large scale, but every touch indicates the mastery power which formed it.

The principal contributions from Prussia have been sent by the architectural publishers, Ernst and Korn. They are valuable, as giving us a better insight into contemporary Prussian works than a few views occupying the same space would do.

Hamburg is well represented by MM. Meuron and Haller, whose "buildings in the Zoological Gardens at Hamburg" show remarkable artistic skill in design, and perspective, and highly coloured in the use of mills for crushing oil, and Italy—as distinguished from Rome—a few Pompeian views. Spain gives us no indication of her modern architecture, and but a few specimens of what once made her famous in art.

Before noticing more in detail the foreign architectural works, we must remark that they are depicted less strikingly than those in the English department. Whilst our drawings in perspective, and highly coloured, are more frequently simple geometrical drawings, with plans and details. Moreover, they seem to us to have been also designed geometrically, and perspective views, more often than not, show them to disadvantage. But, on the other hand, the plans and details which nearly always accompany them, give them a value which the English drawings do not possess. It enables them to be read at a glance, and to be thoroughly comprehended by architects.

Knowing what the French can do, and have so recently done in Paris, we certainly expected to see them in greater force, but we regret to find that most of their great architects are altogether unrepresented in the Exhibition. Only about forty or fifty subjects are included in the collection, and of these more than one half are proof engravings, lately published. Thus we have four or five sheets from the "Monuments d'Art" issued by Gide and Baudry, and about a dozen from Cesar Daly's "Architecture of the nineteenth century." These latter are further insufficient, inasmuch as they withhold the names of the architects whose designs they display.

Viollet-le-Duc treats us to some fine views of his restorations of the ramparts of Arignon, crowned with machicolations and battlements, and guarded by walls of iron. He might gates, and towers, and high towers, and with its chapel in the centre, are restored in the most conscientious manner, after a scrupulous examination of the ruins. Laisné sends a plan for the restoration of the picturesque cathedral of St. Nazaire, at Brest, famous for the horrible slaughter of the unfortunate Albigenses in the early part of the thirteenth century. The town hall at Compiègne, with its fine beffroi, angle turrets, and high pitched roof, is well represented by Ferrière. Millet sends drawings of the tower of which the best of which is that of Gisors, Department of the Allier. It is very simple, consisting of a nave with three apses at the eastern and a tower at the western end. Ruprich-Robert, whose designs are amongst the finest embellishments of Paris, has been content to contribute only a study of one of the old French abbays. The drawing is hung too high for proper examination. An engraving by Sauvageot (21) after Viollet-le-Duc, of a city of the middle ages, gives a rare glimpse of the way in which the towers as it is in ruins. Normand sends seven fine drawings of France Napoleon's house, but with a few characteristic mismanagement they are separated and hung in two different situations.

The Prussian architecture is best represented by architectural publications, almost too conspicuously by a huge model of the Exchange at Berlin, in the eastern end of the nave. The "Baukunst" (181-2) is a fine volume with fine examples from Osterberg, Jerchow, Krenow, Stendal, and Tangermünde. Adler's design for the new Town Hall, Berlin, is a dismal looking brick building, but it repays a more careful examination than it, at the first glance, invites. Carl Bötticher exhibits his love for Greek art in two works, "The Teutonic System of Ancient Greece," and "Designs for Architectural Ornaments." Von Dietrich has a good view of a cathedral and a creditable design for the new hall at Berlin, but his views of the Alhambra, and especially that of the Court of the Lions, are not up to the mark. Ernst and Korn contribute a series of numbers of their Architectural Magazine, "Architektonische Skizzen-buch," which will give our readers just such an idea of ordinary Prussian architecture as a volume or two of the "Building News" would afford a foreigner of our recent designs and construction.

E. F. Gieseler, of Saxony, exhibits in a series of seven publications, from the original drawings (521), the prize design for the new Opera House, Vienna. It is, in geometrical elevation, a pyramidal composition, the central portion being four stories and the extremities but one story high. It is in the Renaissance style, with columns to each story, and sometimes smaller ones in the window-jambes. The "Drawings of a Princely Residence," by Paul Habolt, is of a most elaborate character, and would

cost, we fancy, more than princes have to spare now-a-days. We are indebted to Hitzig for the large model in the nave, to which we have already alluded, which deserves notice more for the good arrangement of the plan, and for the beautiful modelling of the ornament which accompanies it, than as a design for an important public building. Other designs by the same architect, show the same Greek tendency, but we do not see in any the same lofty aim, which reposes upon every work of his countryman Schinkel.

Kneblach has three designs in the Exhibition, but there is one only, the new synagogue, in the Oranienburger Strasse, Berlin, which will arrest the eye of a visitor. It is Eastern in style, with a large central Moorish dome, and smaller ones at the sides. It is covered with elaborate and well designed ornament. A design for a small museum introduces us to Lame, a devoted admirer, seemingly, of the severer Greek style, whilst the drawings of Meuron and Haller, of Hamburg, possess that tasteful freedom in the employment of Italian art, which is only elsewhere seen in the best of modern French architecture. The drawings are altogether excessively clever, but the entrance is presently so. There are altogether five 'sketches of them' (427). A book by Meyer, 'Handbook of Gardening,' is devoted to the ornamental arrangement of gardens. In Von Quart's 'Historical Monuments of Architecture in Prussia,' there is a good view of the Schloss Heilsberg, and in Rango's 'Brick Architecture of Italy,' some accurate and detailed representations of the well-known Town Hall at Piacenza, the Palace on the Lungarone, at Pisa, St. Giovanni a Paolo at Venice, the Hospital at Milan, and the less known, but so lately beautiful St. Chiara at Siena. Other fine publications of Ernst and Korn contain the best of Schinkel's designs—all worth attentive study.—Salzenberg's monuments of early Christian architecture in Constantinople, Struck's architectural details, mostly taken from one house in the Leipziger Strasse, and the splendidly worked out Greek design by Steiner, for the new museum at Berlin.

In 679-86, we have another creditable Gothic design from Prussia, by Schmidt and Strauch. It is beautifully drawn, and we are mistaken if Viollet-le-Duc has not greatly influenced the designers. It is sent here by the Royal Academy of Architecture, Berlin, who are large contributors to the Exhibition. The drawings of a city gate, by Aug. Tiede, are likewise very successful studies. Amongst the German oil paintings, a painting by Von Klenze deserves notice for its architectural merit. 'Athens in the time of Hadrian' is therein represented by one whose studies have enabled him, better, perhaps, than any of his contemporaries, to conceive it. It is composed of porticoes and caryatides, sculpture relieved by colour and marble columns. In the background the Acropolis is seen crowned by the walls and columns of 'Palladium.' We would also direct the painter to some wonderfully manipulated interior by a Danish painter, H. Hansen, 1613, 4, 5, 6. They are rooms in the palaces of Fredericksberg and Rosenborg. As perspective studies they are amongst the most wonderful pictures we have ever seen.

#### STAINED GLASS IN THE INTERNATIONAL EXHIBITION.

WITH AN ILLUSTRATION.

**S**TAINED Glass Windows for the enrichment of churches, for monumental purposes, and for the decoration of dwellings, are of two descriptions, Pictorial and Gothic, the former bearing the character of transparent pictures, to be judged of as works of art generally; the latter, of decorations necessary and subordinate to the edifice they adorn. Hence stained glass windows possess a relative, as well as an intrinsic, value.

Pictorial glass is preferred by some as enabling the artist to give a more life-like delineation of the human figure. This advantage, however, is obtained by the sacrifice of the special qualities of the glass itself, assimilating it, in fact, to painted porcelain. Gothic or decorative glass, on the other hand, exhibits in the highest degree the glowing and jewel-like effect of coloured glass, admitting at the same time the greatest beauty in its abstract lines, and a perfect harmony with architecture. Both styles, however, require invention, combined with skillful drawing and manipulation. To illustrate these remarks, the Virgin and Child by an Italian artist, and numbered 2021 may be taken as the extreme of pictorial glass, and Fowler's window, designed by Jones, Class 34 A, as the extreme of the Gothic school. The time is recent when it was thought impossible to reproduce the glowing tints of old glass, more especially of the thirteenth century; but tints more varied, and fully equal in richness, now come from the studios of our leading glass stainers; for, owing to the increased demand for memorial windows, and for stained glass generally, many superior men have diligently studied the art, and glass makers also have been stimulated to prepare materials which leave nothing to be desired.

The result has been a simultaneous advance in the quality of stained windows and a decrease in their price, so that the richest figure work now averages but 30s. per square foot, instead of 50s. or 60s., whilst the ornamental designs can be procured for 25s. per foot down to 5s. for the simple but beautiful ornamental quarries.

The Commission of the Exposition has great dissatisfaction in their defective provision for this branch of art, evincing in fact, their ignorance of its requirements. In the galleries a borrowed and diffused light only is obtained; whilst in the transept, worse still, the sun shines upon the front of the stained windows, instead of behind them, thus rendering the colours almost invisible, revealing only the lead work. Full allowance must therefore be made by visitors for these drawbacks.

The stained windows exhibited by Heston, Butler, and Bayne, in the west transept or Austrian department, are examples of the thirteenth and

fourteenth century styles, and in the galleries, Class 34, of the fifteenth and sixteenth centuries.

In these they have endeavoured to combine the architectural character of the most refined and original designs, and the richest jewel-like effect of colour.

Of the windows exhibited in the gallery, Class 34, the most striking is, perhaps, that of 'the Adoration,' in which the background is composed of numerous tints of colour varying from light blue green, to purple; the expressive head of the Virgin is most carefully and delicately treated, but the unfortunate position of the window is fatal to its beauties, which require a strong clear light, so as to bring them out to their integrity.

The heraldic window is treated in a most simple but artistic manner, and the colours being on a white quarry ground, will commend it to the taste of connoisseurs.

The window above the 'Adoration' is intended for Skulthorpe Church, and illustrates the history of Ruth; here, also, coloured ornamentation on white ground is used to give relief to the figures. The other window, for Langton Church, contains the principal events in the life of our Lord, the treatment being of the ordinary character.

There are several superior windows in the west transept, Austrian Department. The most unique is the 'Procession of the Burial of our Lord,' the original cartoon of which is exhibited in Conduit Street Architectural Exhibition, and has met with general admiration.

We present our readers with an engraving of a Stained Glass Window, by Messrs. Heston, Butler, and Bayne, of Cardington Street, intended for the Baptistery of St. Alban's Abbey. Considerable repairs and restorations have been recently effected under the superintendence of Mr. Gilbert Scott; and the elaborate workmanship and brilliancy of the colouring of the present work of Mr. Heston and his co-partners, will make it a gorgeous addition to the varied beauties of the baptistery.

It is exhibited in the West Transept of the International Exhibition, immediately over the entrance to the Annex for machinery in motion, and though placed in an unfavourable light, its colouring, workmanship, and some novelties of construction can scarcely fail to attract the attention of visitors, especially of amateurs of the art.

Of the Abbey, and especially the baptistery, being of the date of the thirteenth century, the window was necessarily designed to accord with it. Fortunately there are sufficient remains of stained glass of this period to indicate the principles that should guide us at Salisbury, and at Bourges and Chartres in France, and to prove that it was as well understood at that time as the architecture it enriched.

These ancient windows have been so long surpassed in design or in management of colour. The window illustrates the 'Baptism of our Lord,' and its antitype, the 'Passage of the Red Sea.' These subjects, though severely treated, are well and carefully drawn, the features and folds of the draperies are expressed by simple black lines, assisted by a very slight shadowing.

It is in the 'Passage of the Red Sea' more particularly that a new treatment of stained glass is adopted. It has been found that the more uneven the various pieces of glass are, the greater the richness of the completed work. It has hitherto been usual to reserve the salvage pieces of glass which are most uneven in tint for the choicest parts of the window. In this window the greater part of the glass has been gradually ground away from one side and afterwards polished. The back grounds of both subjects are composed of great numbers of small pieces of fine glass, varying in tint from a light greenish blue to a purple. The full and somewhat fiery tone of the subjects is relieved by the quiet violet and yellow diaper work on which they are set. The wide border round the whole window is composed of conventional foliage, in which birds, reptiles, &c., are entwined; and the background is a solid greyish blue; this gives value to the rich blue of the subjects.

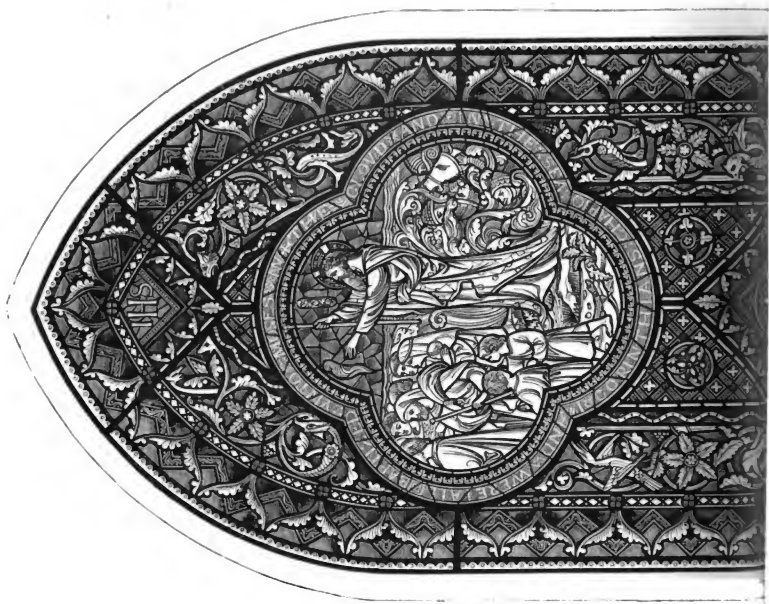
The glowing effect of the Saviour's robe in the Baptism is produced by mixing the lighter tints of red, produced by the chloride of gold, with the darker, made from the protoxide of copper; these are neatly united together in the folds of the drapery by the leaden bands.

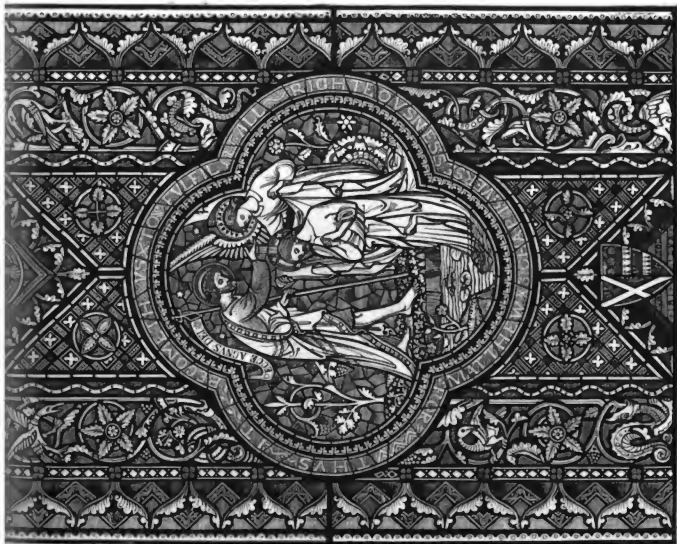
The window is glazed throughout with a round lead similar in make to the best lead, which has given proof of its quality by doing good service for 800 years. The arms of Dr. Nicholson and of the town of St. Alban's are introduced in the border. Were the position of the window in the Exhibition more favourable, there can be little doubt of the judgement of the public upon its general effectiveness.

The restorations of the Abbey Church of St. Alban's, although effected at a cost of nearly £23,000, leave very little scope for the exercise of the munificence of future donors, especially in the ornamental work of the monuments, chanceries, and chapels. The important matter of drainage has been very thoroughly done throughout the whole of the walls on the north side by removing a large mass of accumulated earth, constructing an sub-chamber for intercepting any external damp from coming in contact with the walls. The water is now conveyed by a system of pipes from the back of each roof into a great deep running channel, the walls about ten feet distant. The whole of the roofing of the north aisle has been reconstructed, and a portion of the roof of the north transept.

St. Alban's Abbey, which will be adorned with this window, has hitherto been almost destitute of stained glass. The 'Act of Mercy' window, executed for Harpenden Church, is another example of the good taste and energy of the subjects and treatment. The numerous figures are well drawn and coloured, and the composition contrasts favourably with similar subjects exhibited by Holland in the same department.







WINDOW : IN : NORTH : AISLE : OPPOSITE THE FONT : IN

ST : ALBAN'S : ABBEY : HERTON : & BYTLER ■ LONDON

241 CARDINGTON ST. KAMPSTADT. NW





## MR. MONCKTON MILNES ON THE INTERNATIONAL EXHIBITION OF 1862.

ROYAL INSTITUTION OF GREAT BRITAIN.

At a recent meeting of the Royal Institution, R. MONCKTON MILNES, Esq., M.P., delivered an address on the "International Exhibition for 1862." The speaker stated that the managers of the Institution had proposed that some discourse should be there delivered on the most important natural products to be exhibited at the Great International Festival, and had thought it advisable that these special addresses should be prefaced by a few considerations of the nature and scope of this wonderful congregation of the industries and intelligences of the world. He was much flattered at being selected to perform this duty, and could assure the members present that he should come into no competition with the eminent persons that would follow him, but should confine himself to those generalities and common-places which are not always the more displeasing for being in some sort the reflection of their own minds.

It was the habit of this Society to deal rather with facts than speculations, and he would therefore direct their attention to the geographical and political conditions which alone rendered possible such an event as this. It had been written with sufficient accuracy for verse, that—

"The total surface of this spheroid earth  
Is shared by all, by all is shared;  
Nor East nor West conceals a secret worth—  
In the wide ocean no Atlantis lies;  
Nations and men, that would be great and wise,  
Thou knowest, can no more than men have done;  
No word'st thou praise, no divine spirit, can  
Bring this planet near to the sun—  
Civilisation's prize no royal road has won."

The accessibility of the ocean-waters of the globe was a first necessity to this end, and this had been now accomplished from the ice-bound fiefs of Mount Erebus to the grave of Franklin. We could not say quite as much of our knowledge of the land of the west, but we perfectly understood the limits of our ignorance, and could fairly assume that there was no position of the earth yet unassured which could in any notable degree add to our physical science, or extend our observation of the habits and destinies of mankind.

Although great continents are represented in our Exhibition only by their fringes, we can hardly contemplate any such conversion of nature or man as those people the sandy spaces of Africa, the vast pastoral steppes of Central Asia, or those huge fields of the unlimited liberty of animal and vegetable life which stretch in South America from the tropics to the polar snows, with the higher forms of industry, art, and civilisation. It is enough that no longer can Tartar hordes swoop down on richer and fairer lands, and that the sage and salutaris prairies of North America cannot check the enterprising ongrowth of the Anglo-Saxon race.

And this brings us to another general condition of our Exhibition, the security of the sea, and the general facility of commercial intercourse. The exceptional piracy which obstructs the trade of the waters of Oceania, and which the energy of Sir James Brooke has done much to repress, was once the custom of the world, and carried with it no notions of cruelty or disgrace. This evil was partially remedied by placing commerce under the safeguard of religion. Where the modern state establishes a factory or a free port, the old state built a temple. Thus the Tyrian Hercules linked together the trade of Greece and Phœnicia in a common worship; thus the fane of Jupiter Ammon was the great resting-place and protection of the caravans of the desert; thus the lines of the chief Catholic pilgrimages were the paths not only of all travellers but of all merchants in the middle ages. The interchange of the gifts of God was sanctioned by Pagan and by Christian piety, and the notion of connecting trade with an inferiority of social station or intellectual power, is a perverted remnant of the feudal system, where the jealousy between town and country tended to discredit labour and to idealise brute force.

The speaker proceeded to draw the distinction between ancient and modern trade. In the old Asiatic nations, where influence is still palpable among mankind on the score of antiquity and the bond of religion, the ideas of free trade and competition would have been incomprehensible. The exclusion of foreigners from the internal navigation of the several countries was universal, and none were permitted even to enter foreign ports, except with the *tesera hospitalis*, or some other symbol of a commercial treaty. Bars were thrown across the mouths of some rivers, as by the Persians at the Persian Gulf, after their conquest of Babylon; and the impediments to navigation still remain. And in modern Europe the growth of liberal commerce has been slow indeed, and it is one of the happiest privileges of our time that, as regards ourselves at least, we have come to see its consummation. In Sir Dudley North's "Discourse on Trade," published in 1691, the principle is laid down "that the whole world as to trade is but as one nation or people, and therein nations are as persons." But the Holbourn and the River of the Thames are the objects of a commercial animosity, which did not prevent the one from occupying our fisheries up to the very coast, and the other from sharing with us the dominion of India.

The social and political conditions represented by our Exhibition next occupied the attention of the speaker. The whole of this marvellous combination of energy and art is the result of free labour—of the spontaneous industry of mankind. It is not the forced application of local nature to local designs, but the collation and transmission of the most diverse and distinct elements to the use and benefit of our race: the juxtaposition of

our coal and iron have suggested the manufactures of Sheffield, but it is the bonux of Tuscany which assists the ingenious labourers of Colerhough Dale. It is the sign and symbol of the general education of the world, which renders it impossible that discoveries can be made or arts be lost. The ignorance and superstition which kept mankind in unnecessary physical pain after the invention of the "spongia somnifera" of the 12th century, can no longer check the anæsthetic powers of a beneficial nature, nor would it require a Harvey to revive, however he might be required to develop, the knowledge that perished with the ashes of Serapetus.

But besides the intercommunication of nations in space, the speaker remarked, our Exhibition surely owes much to what he would call the trade of time, the thoughts, the feelings, the interests, that pass from generation to generation; the arts of Greece, the laws of Rome, the religion of the Semite people, the triple elements of modern civilisation. The silent East gave the alphabetic character which has transmitted all the speeches and varied literature of the West; the Brahmin preserves the sacred language in which the linguistic sciences of modern times trace the mother-tongue of all the Indo-Germanic dialects that pass from mouth to mouth beneath these lofty domes.

The singularity of the circumstance that England should be the scene of this meeting of the nations was next alluded to. It was an illustration of the advantage of our insular position, which being combined with sufficient territory, gave us at once the best political condition of external power and domestic independence. Our greatest danger in history has been not our own conquest, but the conquest of France, which must have absorbed us into the continental system. Now, the peril of our power lay in the rapid political and moral elevation of the other European nations, but we could well afford to sacrifice some individual superiority to the common gain of mankind.

The speaker concluded with noting some of the probable effects of this great jubilee of commerce. Large congregations of men had always vividly struck the imagination, and the jubilee of Pope Boniface occupied the mind of Dante that he illustrates by it one of his supernatural pictures, and fixed it as the date of his spiritual journey. Such assemblies have always been looked on as harbingers of peace, and we know what were the expectations of 1851. But though that hope has proved delusive, we may yet feel thankful that, with the exception of the American calamity, all the disturbances of the world since that time have been the conflicts of a lower against a higher civilisation, in which the higher has had the mastery. The materials here brought together must impress on the spectators the mutual dependence of nations, and the interests of amity. One of the chief objects of interest would be the various applications of science to industry; advantages perhaps somewhat lessened by the injury of the application of industry to art. As art becomes mechanical, it loses the spontaneous dignity which makes it most divine, and it seems impossible to diffuse and repeat it, without some diminution of its highest faculties. But this qualification does not extend to the relations between industry and science, there the moral is as certain as the material profit; intelligent labour is substituted for the mere exertion of brute strength; the supply of labour is extended far beyond the luxurious demands even to the necessities; the diseases consequent on physical hardship are diminished, and the average longevity of man increased. To the progress of scientific education not only the philosopher but the statesman looks for the diffusion of public happiness and the permanence of modern civilisation. If the states that now rule the world are to escape the doom of Babylon and Rome, of Egypt and of Greece, it is in that they have not made their science the monopoly of a caste or a priesthood, but they have placed it more or less within the reach of the individual intelligence of the humblest citizen. Let the education that enables mankind to apprehend and value truth proceed commensurately with the discoveries of science, and the community will gradually but continuously absorb into itself that knowledge which makes decay impossible, and our country may boldly and confidently meet and remain for it in the inscrutable designs of the Creator and Ruler of the universe.

## MR. NEWTON ON ANCIENT ART.

MR. NEWTON, the keeper of the Classical Antiquities at the British Museum, has just been delivering four lectures at the Royal Institution, on the successive Tuesdays, on the History of Ancient Art, with especial reference to Greece. In the first, he commenced from the earliest period to which there is any record, whatever, and showed that the art of sculpture is divisible into two leading classes: 1. Sculptures in the round; and 2. Relief, whether alti or bassi. Art itself may be divided into five great periods, viz. 1. Heroic and partly Pre-historical, from the earliest dawn of art to a.c. 776 (the date of the Institution of the Olympic Games). 2. Semi-historical, from a.c. 776 to a.c. 480. 3. Historical, from a.c. 480 to a.c. 476, the end of the Persian War. 4. The period of Highest Art, from a.c. 476 to a.c. 431, the date of the death of Phidias. 5. The period of the Peloponnesian War. 6. The period of Gradual Decline, marked, however, by the presence of many great artists, such as Lysippus, Polygnotus, Praxiteles, &c., from a.c. 431 to the commencement of the Roman Empire.

In his first lecture Mr. Newton traced the gradual development of some form of art from the rude stocks of wood and stones of the primeval times, to the rudest of the primitive idols, made of a central block, with heads, arms, and drapery, added, generally in different materials; of which idols, doubtless, the Palladium Diomed stole from Troy, the figure of the



in which he displays his heart of hearts must merit and repay the study of those who endeavour to ascertain the meaning of the various social phenomena which influence or characterise his history. And it is to be observed that the terms of the latter portion of the preceding sentence have not been used lightly; for the monumental arts of an age and of a nation have a strange action and reaction on the people who create them daily. Properly understood, then, the "sermons in stone" may enable us to supply many blanks in the written stories of past ages, and to revive the living pictures, perhaps long since effaced, of the thoughts, feelings, aspirations, and faith of nations only known in chronicle by their deeds of destruction. History, as we read it in books, is too often a mere record of deeds of war and violence; the power and energy of construction are to be derived from the monuments of the age or country in which they were wrought.

It would far exceed the limits which could be allotted to the articles of a publication, such as is now presented to the students of art history (as displayed in contemporaneous architecture), were an attempt made to work out the preceding notions to their natural consequences, throughout the whole of the long period of man's tenacity of this "sepulchral clod." A careful comparison of the works in course of evolution in the most important cities of the civilised world, or which have been completed within our own time, will, however, serve well to "point the moral" sought to be demonstrated; and indeed society has passed through such marked changes within the period which has elapsed since 1814, that the art history of that time may serve to elucidate many questions which would throw a reflex light on those which have gone before. The general diffusion of education, the improvement of the analytical process of investigation, the development of the means of intercommunication, the great strides made in manufacturing industry and commerce, and the thousand ways in which man has recently, in sober truth, "made fire, flood, and earth the vassals of his will," have produced results so startling that society has, in the last half-century, been more changed in all its external expressions than it had been in any previous two or three centuries. What is the moral to be learned from this result, ceaseless striving after a perfection which recedes as we advance, and in the pursuit of which we find that the gain of to-day only opens up the want of the morrow? What are the prospects, what the dangers, hopes, and fears to be anticipated from the spirit now abroad? Is there "good in everything" going on around us, either for the moral or for the intellectual advancement of our race? And have we any promises held out for our future or for our warning? There are noble subjects for enquiry, and it is proposed in this and in some subsequent articles, if favourably received, to discuss the bearings of recent architectural and archaeological revolutions upon their solution.

The first enquiry which presents itself, is the one as to whether periods of excellence in art correspond with any peculiar conditions of social organisation; for, to assume that the present is the best, and the best for our nations of Western Europe, England and France, we may observe that within the last half-century, there have been three distinctly-marked phases in the history of architecture, corresponding rudely with the great political dates of 1814, 1830, and 1848. Of course, Architecture, in the two countries thus named, has assumed characteristics which are in the respective cases, "the cry of the age," just as the period of the decline of classical art the architecture of Florence, of Rome, and of Venice bore the impress of the respective states of society amongst which they arose; and as must always be the case when the rule materials employed, the atmospheric conditions, and the social organisations of nations, differ notably. But in spite of these local modifications, it is easy to perceive that every one of the great changes in the architectural expression of the two countries has borne a marked parallelism with the contemporary political events, the nature and extent of which it must be of interest to study.

Previously to 1814 the iron despotism of the Empire of the first Napoleon had effectually crushed everything like originality of thought in the French people, and had drilled the national mind into the uniformity of a camp. The architecture of his day bore indeed the physiognomy of the Emperor; and it was moulded upon so lifeless an imitation of Roman imperialism, that it is easy to understand the cry of the aspirers after freedom of thought who sighed, almost in despair, for the man "qui les délivrerait de ces éternels Grecs et Romains." There was, however, a solid grandeur, a bold, simple, massive effect about such buildings as the Bourse, the Madeleine, the Arc de l'Étoile, l'Arc du Carrousel, the Colonne de la Place Vendôme, the Marché St. Germain, the Arc de la Vierge, the Arc de l'Écluse, the Pont de Jéna, &c., which must always preserve the buildings of this period from contempt, even if they should be regarded with dislike. They were stiff and affected, it is true, but they were not little in any sense of the word. When Napoleon fell, however, and the Bourbons introduced the freedom of constitutional government, and when men's minds (which had during the long wars of the Republic and of the Empire been concentrated in the narrow struggle for existence at St. Denis, and then for glory) could be turned to the cultivation of the arts of peace, a great change soon came over the spirit of the nation, which displayed itself in the altered character of its architecture; perhaps not quite so distinctly as it did in the arts of painting, sculpture, music, and in literature and philosophy, but still perceptibly so. The churches of Notre Dame de Lorette, of St. Vincent de Paul, the Chapelle Impériale de la Rue d'Anjou, and the Chapelle de la Charité, the Champs-Élysées, the departure, the commencement of the Palais du Quai d'Orsay, may be cited as illustrations of the public buildings of this period; but the private buildings of the principal towns of France display the tendencies of the architecture of the "Restauration" in a still more decided manner. There is to be found in those buildings erected shortly after the fall of the Empire, as it

was, a spirit of revolt against the rectilinear style which had prevailed during the days of the crowned soldier; and towards the end of the Restauration the love for mediæval art began to display itself simultaneously with the brilliant appearance of the romantic school of literature. The galleries Véro-Dodat, Choiseul, Colbert, des Panoramas, the theatres du Vaudeville, Vendôme, &c., may be considered to represent the former phase of French architecture; the reconstruction of the Maison de France, 1<sup>re</sup>, and the commencement of the Ecole des Beaux Arts, of the second. But France had been so exhausted by the wars of the Empire, by the foreign occupation, and the perpetual struggles and contests of parties during the short period of the reigns of the returned Bourbons, that the results of the efforts then made to improve the state of architecture only became apparent after their successor had reduced society to something like order after the fearful outburst of demagogism of 1830.

During the same period (that is, between 1814 and 1830) architecture in England passed through the phase characterised in the beginning by the productions of Wyattville, Soane, and Nash, or of Jupp, Cockerill, senior, and Hardwick, senior; and towards the end by Smirke, Inwood, Wilkins, Jordan, Bedford, Decimus Burton, B. Wyatt, Rickman, Britton, and Pugin, though the three last-named artists were rather architects than practical architects. The buildings of London, and indeed of England generally, were then as deficient in taste and artistic feeling as it is possible to imagine, externally, at least; and internally, more attention was paid to physical gratification, to comfort, than to anything like intellectual expression. Practically, we had long been excluded from all interchange of ideas with the rest of the world; by the struggle we had sustained against the French Revolution, and having been victors in that struggle, we had fancied that others ought to learn from us, not we from them. Our arts, and our architecture in particular, at this period, were intensely local in their feeling and mode of expression; and as our local peculiarities had become exaggerated through our isolation from the rest of the world, they led us to the adoption of a style of architecture for many years which can now only be looked back upon with feelings of shame and of regret. Buildings like the Custom House, the old parts of Buckingham Palace, the Law Courts of Westminster, Regent Street, the Regent's Park Terraces, the Pavilion at Brighton, &c., are now thought to be so intensely ugly that the only surprise we can feel is, that they should ever have been erected. Yet they were admired at the very time that the gates of the great reform, Covent Garden, had been thrown open, and the Pantheon Church, the churches in the Waterloo Road, at the corner of Kensington Common, the Louthbury corner of the Bank, &c., were in course of construction, and when the revival of mediæval art was beginning to make itself felt. It would really seem that during the great struggle of the Revolutionary wars all the energy of our nation had been turned to meeting the necessities of the contest; and that though our commerce, our manufactures, and our mechanical improvement had been in progress, the attention of our rulers, because they furnished the elements of material strength, the finer arts had been designedly neglected, as being likely to lower the moral tone of the nation. When peace came, the artistic feeling of England no longer existed; and the nation which had produced the Reynolds, the Gainsboroughs, the Chameuses, Adames, Barons, and Bankes of the latter end of the eighteenth century, and which had produced the greatest masters of the West, the Rosses, Westmacotts, and Nollekens of the beginning of the nineteenth. The imitation of pure Grecian architecture, which became fashionable about the end of the Regency, was, in its way, a vast stride towards a purer and nobler taste; but the reason why we thus adopted the severely beautiful style of the Ionian and Doric rectorial forms, whilst they were rapidly passing out of fashion in other countries (for there is fashion in everything), was, and remains a mystery. It is curious that the building materials we use, and the climatological conditions of England, are far from being so well adapted to the trabecated architecture of the Greeks, as are the fine building stones and the clearer atmosphere of France. Yet, in our case, we persisted for years in carrying out huge horizontal openings by the use of cement and bricks; whilst our neighbours turned by preference to the practice of the ogiva and of the elliptical curve, the Roman and the modern modes. The latter had, like all who sought their inspiration from the study of classical Roman art, adopted vaulted construction instead of the trabecated one; and we therefore find that the French architects of the "Restauration" had continued in the same course.

(To be concluded in our next Number.)

#### THE BONES AT BATHWELL.

MUCH interest has been lately excited amongst the archaeologists of Northampton, as to the origin of the human bones which are stacked, in ghastly order, in a vault at Bathwell. This crypt was discovered nearly an hundred years ago, by the breaking in of a vault when digging a grave; and various have been the speculations as to the mode in which they came to be deposited, from their huge proportions and number, that they were skeletons of giants. The grand old Sea-kings of the Northern Continent, the stalwart champions of Odin, and Major Whyte Melville, the author of "Holmby House," has suggested that "the vault in which these remains are deposited was a receptacle devised by the Saxons as a burial-place for their Danish foes; that the Saxons carefully hid the bodies in this position, in order to wait at intervals, and in triumph, these trophies of their prowess." Some have supposed them to be the remains of the slain of battles during the Wars of the Roses, or of the Civil War, whilst others have suggested that they were the victims of the Great Plague. At the last monthly meeting of the

Committee for Local Antiquities, in connection with the Northamptonshire Architectural Society, a very interesting paper was read on the subject, by SAMUEL SHARP, Esq., F.G.S., in which he relates the account of his two visits to the crypt, with Mr. J. T. Irvine, the superintendent for Mr. G. G. Scott, in the restoration of St. Sepulchre's Church, Northampton. Mr. Sharp calculates that the maximum number of skeletons which are represented by the bones in this crypt is about 3,824, while Major Melville supposes that there could not be less than 30,000; that there is no reason to believe that they are all skulls of adults, or of males, and that the "ghastly shattering wounds" were doubtless "injuries sustained by the *dry bones* from mattock and spade in their exhumation previous to their final deposition in this crypt." This plain solution of a problem which has puzzled many antiquarians entirely satisfies the antiquary, which the clever novelist surmised. Mr. Sharp shows, that in the history of the world it would be impossible to find more than a dozen battles in which 30,000 had been slain on one side; that, indeed, the crypt did not exist in Saxon times, but was built about the year 1180. "The bones, therefore, had not been deposited before the latter half of the thirteenth century," and he considered that "there were reasons for concluding that those bones were not placed in the crypt until a much later date." "It is evident," he continued, "from the presence of the fresco painting, and from the windows, that this crypt was used as a chapel, and for the holding of services. Crypts, in the old Catholic times, were used both as places of sepulture and as mortuary chapels, in which masses were said for the repose of the souls of the builders, or of those whose bodies were deposited therein; they were also used for the midnight Easter services, and for offering the prayers for the dead on All Souls' Day. It is not likely, I think, that this crypt would be appropriated to any other purposes, until the original use had died out—possibly not before (or much before) the time of the Reformation. I do not think that there were any very remarkable circumstances connected with the deposit of these bones. Had there been, surely some record or tradition would have remained to us. The number is not twice that of the existing population of Rothwell, and greater than four perhaps differing materially in character from the bones which might be exhumed from any well-filled churchyard, the soil of which was adapted for their preservation. I do not think that the crypt has been used as an ordinary charnel-house, in which the bones have gradually accumulated; or it would probably have been continued in that use until now. I think that we are warranted in the conclusion that the bones have been all deposited at once, and the place then walled up; and I would suggest, as the most rational way to account for all the facts, that some perhaps old and unused burial-ground, or some portion of the existing burial-ground, being required for other purposes, was cleared of its human remains, which, with reverential regard, were here carefully bestowed, in this consecrated receptacle, which was ready at hand, and which had outlasted its ancient uses."

#### CHURCH, CHAPEL, SCHOOL, AND OTHER BUILDINGS.

**BRISTOL.**—The committee of the Bristol Diocesan Architectural Society have reported very favourably of the designs for the proposed district church of St. Martin's parish. The Church Extension Society of that town have granted £100 towards the project. Mr. W. J. Hopkins is the architect.

**ROMAN CATHOLIC CHURCH, ST. LAWRENCE, O'TOOL.**—The completion of the tower, and erection of a spire thereon, in connection with the Roman Catholic Church of St. Lawrence, are being proceeded with. The spire will be a broach, and have two rows of spire lights, with a gilt cross at its summit, which will attain an altitude of about 200 ft. above ground line. Mr. John Bourke is the architect, and Messrs. Murphy and Son are the contractors.

**ST. MARY'S CHURCH, WUILTSEY.**—This church, which has lately undergone considerable improvements, was re-opened for divine service on Wednesday week. All has been completed, which brings out the beautiful masonry to great advantage, and shows off the noble arches and pillars to that beauty for which they were originally designed. The reading desk and pulpit are of oak, built and beautifully carved by Messrs. Ruddle and Thompson, builders, of Peterborough, and are allowed to be of a very high class. The late Sir Harry Smith's memorial chapel adds greatly to the beauty of the church, in which is erected a very elegant marble monument, surmounted with a life-size bust of the gallant General, and a very appropriate inscription.

**NEW SCHOOL AND CHAPEL, UPTONHAM.**—The tender of Messrs. Halliday and Cave, of Gresham and Oakham, has been accepted for the new school and chapel at Uppingham, the project of demolition has already been commenced. The architect is Mr. Geo. E. Street, of London. The buildings will be very handsome and substantial, in the decorated style.

On Tuesday week, a Wesleyan day-school was opened at Crews. The edifice is in the Gothic style, and cost, including £200 for land, £1,316 4s. 7d., towards which Government gave £369 10s.

On Wednesday week a new school and school-house was opened at Coombe, the site of which, as well as the greater part of the material required for the school, were given by the Provost and Fellows of King's College, Cambridge.

**BREIMSTON.**—A plain and substantial school-room is about to be erected for the new church of St. Luke's, Bredminster, Bristol. The foundation stone is to be laid on Thursday, the 2nd of July.

The foundation stone of a new Wesleyan chapel was laid on Tuesday

last, at Middleborough. The cost of the building is to be £4,400, and will be a mixture of various styles of architecture, the Byzantine predominating.

**DRIFIELD.**—A new Baptist chapel was opened on Wednesday week, at Driffield, Yorkshire. Mr. Haw, of Brierley.

**DAWTON.**—A private chapel was opened on Tuesday week at Lacombe Park, near Dawton, the seat of P. Hoare, Esq., for the use of his family and the tetrarchy on his estate. Mr. Scott, of London, was the architect, and the edifice is built in the transition style. In the building of the apse, nave, and aisle, three different descriptions of stone have been used—viz., Bath, Stoke, and Mansfield. The arcade is constructed of coloured Bath and Devonshire marble, the latter being highly polished. The ceiling springs from pillars of a native and beautifully polished marble. The windows are of richly stained glass. Those in the chancel represent various scenes in the life of our Lord up to the period of His ascension. The other windows are filled with various Saints and Apostles. To each of the windows are two beautifully variegated marble pillars, with elaborately carved capitals. The paving of the upper altar is carefully laid with Devonshire marble, and the lower altar, with the same marble, and Minton's ornamental tiles. The steps of the altar are likewise of the same, the whole presenting a rich colour. The nave and aisle are paved with black and red quarry stone laid to design. The whole of the carving work has been admirably executed. The seats, which are very superior to the ordinary pattern, are made of cedar, the principal part of which was grown on the estate. The doors are of oak, and are tastefully and handsomely made. The exterior makes no pretension to architectural display.

The foundation stone of some new schools was laid on Wednesday week, at Prickwill, Isle of Ely.

The corner stone of the new schools for the parish of Ravenstone, Buckinghamshire, was laid on Wednesday week.

The foundation stone of a new Wesleyan chapel has been laid at Lowestoft. The edifice is in the Italian style, and will cost, with the site, over £3,000, and it will seat 1,200 persons.

**THE RESTORATION OF THE CHANCEL OF THE COLLEGIATE CHURCH, WOLVERTHAMPTON.**—Five tenders have been received for the rebuilding of the chancel of this fine old church, in accordance with the restoration of the nave and transepts after the designs of Mr. Christian, and that of Messrs. Highgate of Wolverhampton, has been accepted. The amount of the tender is £395 with £4,925 with an oak roof. The total cost will exceed this, however. The committee have already obtained £3,800, of which the Duke of Cleveland, as lay proprietor, and the Ecclesiastical Commissioners contribute £1,000 each. The present chancel was erected subsequent to the rest of the church, and with which it is in striking discordance.

**DOWRY CATHEDRAL.**—The alterations and improvements at present going on in Down Cathedral are progressing with great rapidity.

**SWANSEA.**—On Whit Monday, the foundation stone was laid of the new mission chapel, Quarry Street, Swansea.

**WHITECHURCH.**—On Monday last, the foundation stone was laid of the new Wesleyan day and Sabbath schools at Whitechurch.

**NEW CHURCH AT THE EXAMPTON.**—Several gentlemen of different denominations have raised £500 or £600, with which a site has been purchased immediately adjoining the stand for the sale of Bibles of different languages, opposite the Exhibition. A neat little iron chapel has been erected, which was opened on Tuesday for divine worship. The site cost £180; the building about £400 more; and the edifice will hold about two or three hundred persons.

**ST. MARTIN'S CHURCH, OXFORDSHIRE.**—This remodelling of a modern church is by Mr. C. Buckridge, of Oxford. The present building is a mere conventicle, built by the Duke of Marlborough. The chancel, and a south aisle, to its western half, are new, as also is the arcade between the nave and its south aisle. A new north-western porch is added; and the windows, buttresses, &c., of the remaining part of the fabric, have been renewed. The interior decorations are excellent, and the style is very carefully painted. The arcade is of three arches, rising from comparatively lofty cylindrical shafts. The chancel arch has corbelled shafts. The east window is an unequal triplet of tall lancets, under hood-moulds, and set on a stilted horizontal string-course. The tower is a little too low, the belfry-stage not rising clear above the crest of the nave roof. The said belfry-stage has two lighted windows, separated by a shaft, with a trefoiled circle in the head. The tower is capped by a low, octagonal, broached, shingled spire. Inside we may notice with commendation the high level of the eastern triforium (which is shafted internally), leaving room for a good reverend over the altar; with curtains on each side, against the east wall. The reverend is to be of alabaster, with incised ornaments, filled with coloured enamels.

**DEWENT CATHEDRAL.**—The restoration of the chapel of the Nine Altars is now in full progress, under the direction of Messrs. Walton and Robson. All the old shafts of fossil marble (some containing remarkable madrepores) are being repolished by machinery; and where this cannot be done without lessening their diameter, or where shafts are entirely wanting, these are to be renewed. The marble contract alone is taken at £1,000, irrespective of scaffolding. Broken shafts will be carefully restored, minor arches to be caps inserted in stone, *sculpture untouched*, although very much mutilated. Whitewash will be removed by potash-water and Manchester ear. In fact, this noble specimen of thirteenth century work will be cleared of the detriments which have so long disfigured it, and its great beauty brought to light.—*Ecclesiologist* for June.

**AN ENGLISH CHURCH IN NAPLES.**—A church in connection with the English establishment is about to be erected in Naples. One of the acts of Garibaldi, when Dictator in 1860, was to present to the British residents a valuable piece of ground, most conveniently situated in the best part of the city, as the site for an Anglican Protestant church—a circumstance which derives all the more interest from the fact that under the late Government English Protestants were forbidden to worship except in a room, and that room in the Consul's residence. The British community at Naples are attempting to raise a sum of at least £5,000, which will include church, schools, teacher's house, and parsonage. The church is to cost £4,000, and to contain 600 sittings. About £1,500 has been contributed in Naples and £800 in England. The British Government, by the terms of the Consular Convention, is bound to meet whatever sum is collected upon the spot by an equivalent grant.

**ST. PAUL'S CHURCH, BEDFORDSTREET.**—The interior of this sacred edifice, we understand, undergoing a course of repainting and decoration, at the sole expense of Mr. Daines, the senior churchwarden, and will be completed towards the end of the present month.

**CHRISTOPHER BARTIST CHAPEL, NORTHAMPTONSTREET.**—This chapel has recently undergone considerable improvements, under the superintendence of Mr. E. F. Law, architect, Northampton, at a cost of £450.

#### ARCHITECTURAL ASSOCIATION.

**A MEETING** of this body was held at the rooms, 9 Conduit Street, Regent Street, on Friday evening; Mr. THOMAS DILLISH, V.P., in the chair.

**Mr. Meader**, Mr. Robert H. Bardon, Berens Street, Oxford Street, was unanimously elected a member of the Association.

**Professional Practice and Charges.**—Mr. PARAKE moved that the honorary secretary be requested to apply for an official copy of the document recently agreed to by the Royal Institute of British Architects, relating to professional practice and charges of architects.—Mr. T. ROGER SMITH seconded the motion, which was unanimously agreed to.

**Visits to Old Buildings.**—Mr. H. O. HANUS thought it would be well if they could organise a scheme for visiting, during the summer, several of the old buildings in London and the neighbourhood, such as Westminster Abbey, St. Paul's, and St. Alban's Cathedral, the members of the Association being headed by some gentleman well known for his information and interest taken in the objects visited. Such visits would be very profitable, and at the same time form the subject of a general study.

**The Chairman** thought the suggestion a most excellent one.—Mr. T. ROGER SMITH thought they might make some arrangement on the subject before the next meeting.—Mr. C. H. F. LEWIS said, that in order that all the members of the Association should have the privilege of paying such visits as these proposed, all the offices should close at 2 o'clock on Saturday, which was not the case at present. They then agreed to that arrangement for a visit to Westminster Abbey should be made before the next meeting.

**Donations.**—Mr. C. H. F. LEWIS announced several donations to the library; and it was stated that information had been received from one of the honorary secretaries of the Institute of British Architects, that it was the intention of that body to present the Association with a number of duplicate books, which could be spared from the library of the Institute.

**Proposed Architectural Alliance.**—Mr. T. ROGER SMITH moved the following resolution:—"That this Association send a deputation, as requested, to attend a meeting of delegates who are summoned to deliberate upon the proposal for an Architectural Alliance, but that the delegates be not empowered either to grant or refuse the adherence of the Association to the proposed alliance, the Association declining to come to any decision on this point, until after receiving a report from the deputation."—Mr. PARAKE seconded the motion, which, after a long discussion, was agreed to. The first meeting of delegates takes place in London on the first of July. The following gentlemen were appointed the delegates from the Association:—The President of the Institution, *ex officio*; and Messrs. T. Roger Smith, A. W. Blomfield, M. A., and J. A. Bunker.

**Nomination of Office-bearers for the coming year.**—The following gentlemen were nominated as office-bearers for the next year, and they will be balloted for at the next meeting. *President*, Thomas Dillish; *Vice-President*, R. Norman Shaw.

**Ordinary Members of Committee.**—A. W. Blomfield, M. A., J. A. Bunker, R. Walker, R. P. Spier, W. Paris, W. Giffen, Jun., C. H. F. Lewis, G. B. E. J. Parry, R. B. Marshall, Chas. J. E. L. Parry, — Henry, — Mole, T. Goodman, and C. S. Beasley.

**Honorary Treasurer.**—Charles J. Adams.

**Honorary Solicitor.**—Francis Treflett.

**Auditors.**—J. W. Penfold, J. M. Rickman.

**Curators.**—C. H. F. Lewis, and J. W. Walter.

**Honorary Secretaries.**—Charles J. Adams, and H. Attwood Reeves.

#### PLUGHMEN'S COTTAGES AT SAUGHTON MAINS, NEAR EDINBURGH.

**WE** had the pleasure of examining, a short time since, a row of four new and improved cottages for ploughmen, on the farm of Mr. Dickson, of Saughton Mains. They present a very elevated position above the road leading past the farm towards Corstorphine; and when the hedge at present in front is removed, and the slope down to the road really laid with

gravel, as Mr. Dickson proposes, the cottages, with their neat and substantial stone fronts and blue slated roofs, will have a pleasant and comfortable appearance. Each tenement has four apartments in addition to a store-room, which is about 5 ft. 6 in. by 3 ft., and lighted by a window 4 ft. high, and 1 foot 6 in. wide.

When you enter the outer door, which is 3 ft. 6 in. wide, you find yourself in a lobby, 4 ft. by 24 ft. or so. On your right is the door leading into the kitchen, an apartment of 14 ft. in length by 11 ft. in breadth, and floored with tiles. It is well lighted by a window 3 ft. wide by 4 ft. 6 in. high, made to open in the centre. The fireplace is nearly in the centre of the east wall of the kitchen, and there is a snug nook for the garden's chair on the left of the fireplace. Almost opposite the kitchen fire is the door opening into the room, which is 14 ft. long by 24 ft. wide. The fireplace occupies a corner near the window, and which is 24 ft. broad, with a height of 4 ft. The floor is boarded, and with a fire place must be exceedingly cosy, and even without a fire the heat from the kitchen will prevent its ever becoming chilly.

The other two apartments are smaller—they are light bed-rooms, indeed, you enter a space to move in, and room for a small table in the recess of the window. The dimensions of each are 8 ft. 6 in. by 6 ft., and each is lighted by a window 14 ft. wide by 4 ft. high. Both open from the kitchen, and are fitted up with iron bedsteads. The floors of these rooms are also boarded. All the windows are made to open, and thus a fine current of fresh air can be made to play through the apartments at any time without the door being opened. The rooms are also supplied with wooden shutters.

The kitchen and large room are each fitted with grates, adapted to their respective needs, and all the walls and ceilings are lathed and plastered. The height of the rooms to the ceiling will be about 9 ft.

Mr. Dickson has contrived to get rid of the offensive appearance usually presented by coal-cellars, privies, &c., in a way at once effective and artistic. Joined to the end cottage there is a small whole length outside passage to it behind this is concealed, most neatly arranged, a series of canals, built in the outhouses—unseen to the eye, though essentially necessary to domestic life. This wall is about 10 feet high, the effective depression in the centre being about 1 ft. 2 in. in depth.

The coal cellars are each 8 ft. by 5 ft.; the depths 5 ft. 4 in. by 4 ft. 7 in.; and the passage 5 ft. by 3 ft. The outside walls of the cottages are 1 ft. thick, and 9 ft. 2 in. in height. The slope from eave to ridge is 8 ft.; and the highest of the chimneys stalks 3 ft. above eave.

The total cost of each cottage, everything included, was about £110 to £115.

#### NEW FREE CHURCH AT PENICUK, NEAR EDINBURGH.

**BUILDING** operations have just been commenced in the erection of the above church; it is to be erected at the south end of the town, on the road from the railway station, and is designed by Mr. Frederick Pilkington, architect, of Edinburgh. The new church will add another conspicuous feature to the architecture of the town. The tower and spire are to rise to the height of 100 feet. The spire will be slated, and will have corbels of ornamental iron-work at the foot, and also at the four spire-lights. The tower is plain till it rises to the top story, which is octagonal, with pinnacles and decorative windows alternately on the faces. The object of confining the ornament to the highest part of the tower, is becoming more and more appreciated by architects, as it obviously gives a greater appearance, and indeed reality, of solidity to the structure, and places the ornament where it is best seen.

The principal entrance to the church is through the tower, by a massive archway, the staircase to the gallery being also in the tower. The lower part of the end of the church is an open arcade of four arches, with columns and carved capitals instead of mullions, the upper part of the gables being occupied by a large five-light window, with plate tracery. The middle part of the tracery is a six-foot light, richly carved, and surrounded with smaller lights, composed of cinquefoils, quatrefoils, and trefoils.

The two sides are occupied by three coupled two-light windows, and the end is penetrated by a large window of a spherical triangular form, with three larger and three smaller circles, converging to a centre, consisting of a double triangle, pierced and foliated. The session-house is placed at the rear of the church, and the chimney, so often put out of sight as a blemish, is taken advantage of so as to enhance the architectural effect of the building. The height of the church, to the ridge of the roof, is fifty-two feet. The roof is constructed in two slopes, the break being occupied by an ornamental ventilator, running all round the church. The entrances to the church are so arranged that the congregation enters by one door, and exit can be obtained by four doors. The interior is fan-shaped; this secures the obvious advantages both of better hearing and better seeing of the preacher, objects not always studied to the extent they deserve in Presbyterian places of worship.

The gallery, which is seated for 150, is confined to the end of the church, opposite the pulpit; the seats are all to be open with carved ends, and sloped at a comfortable angle. The roof will be of open timber-work, simple, but effective.

The estimated cost of the whole structure is £2,050, and the church is expected to be ready in the course of next year. The contractors for the works are Mr. Thomson, mason, and Mr. Tait, wright, these being the chief contractors, all of Penicuk.

## GENERAL ITEMS.

**CUPAR CORN EXCHANGE.**—In 1859 a movement for the erection of the above was originated. The foundation was laid in August, 1861, with Masonic honours. The design has been prepared by Mr. Campbell Douglas, architect, of Glasgow. The building, when finished, will be a neat and elegant edifice of the gothic style. The entrance porch, the only part exposed to view from the street, is to be surmounted by a light and handsome spire, rising to the height of one hundred feet, while the side next to the school-hall is splendidly relieved by a range of dormer windows. The interior of the building will display an equal amount of good taste and design, having the appearance of a beautifully proportioned hall, of the size of ninety feet long by fifty wide, with a circular roof of about forty-five feet in height at the greatest altitude, and supported by cast-iron girders, spanning the whole width. The building will be lighted by a double range of windows in the roof from end to end, and at night by three large and powerful skylights, with which is connected an apparatus for ventilation. At the north end of the hall ample accommodation is provided for the business of the Exchange, in the way of committee and sitting rooms; and at the entrance there is a ladies' ante-room, and orchestra above, in the event of the hall being used as an Assembly or Concert room. The walls are all constructed so as to be removed at will, in order to their being used as supports for the flooring of the orchestra, and accommodation is also provided for the storage of the whole seating in the hall, so that the area may be left perfectly free for the purposes of the markets. The estimated cost of the whole is 4000*l.*; and it is expected that the buildings will be finished and opened by year.

**COURTNEY F. LANDER AND BELLIE.**—A copy of the award made by Wm. Cole Beasley, Esq., of the Inner Temple, has been received by us, and we are enabled to say that the adjudication is in favour of the defendant, the Rev. Anthony L. Courtney having to pay the costs on both sides. It will be a source of gratification to the profession generally to know that in the only two cases of importance of which there is record of actions brought against architects—viz, that of the Middlesex Magistrate v. Dukes, and the present action—both have issued in the entire exoneration of the members of the profession from the charges made against them.

**THE MEMORIAL TO PRINCE ALBERT, ARCADES.**—We believe, says the *Aberdeen Herald*, the committee have had one or two meetings on the subject, but of the form of the statue the artist to be employed has not yet been signed. It is said that Baron Marochetti has been selected, subject to Her Majesty's approval. We hope this is true, as such a decision would, we think, give general satisfaction. Marochetti is a sculptor whose works do not deserve unqualified approval, as we need go no further to see than the right fore-leg of King Richard's horse in front of the Houses of Parliament; but he has the great faculty of expressing power and dignity with simplicity and directness, and his work is the common-sense of all who practise the plastic arts with success. The statue is proposed, we believe, to be of bronze; and the site suggested is on the wooded declivity of Union Terrace, adjacent to Union Bridge.

**REMOVAL OF ST. THOMAS'S HOSPITAL.**—About a very long and bitter contest with the authorities of the South-Eastern Railway the governors of the hospital have at length come to a resolution by which it will be relieved from the dangers which would probably be encountered by the patients from exposure to the winds presently incidental to close proximity to such railway stations as the South-Eastern and London and Brighton, Canterbury, Brixton, Streatham, and various other places have been named from time to time as eligible sites for the hospital, while, on the other hand, it has been warmly contended that, if at all practicable, a metropolis site should be secured. The authorities of the hospital, after diligent search and anxious inquiries, have at length been able to adopt a course which it may be hoped will prove satisfactory to all parties concerned. The Royal Surrey Gardens, situate in Walworth, and about a mile and a quarter from the three great metropolitan bridges (London, Blackfriars, and Westminster), will in the course of a very short time be the spot on which the new hospital will be erected. All the arrangements for the purchase money have been made, and the usual amount of deposit lodged. It will be, of course, some little time before the site can be cleared and the building commenced; but there will be no unnecessary delay, and in the course of a few months the patients will be in a position to be removed. The site now occupied by the hospital will then be devoted to the purposes of the South-Eastern Railway Company.

**A PUBLIC PARK FOR BARNESLEY.**—About twelve months since Mrs. Joseph Locke, widow of the eminent engineer, in order to mark the connection of her husband with the town of Barnsley, in addition to giving £2,000 for the foundation of scholarships in the Grammar School, and £1,000 in aid of the Catholic school, offered to present the town with a park, if a suitable site could be found. In accordance with that desire she caused a piece of ground, about 17 acres in extent, close to the town, to be purchased and laid out. The whole has been enclosed, and now forms a magnificent recreation ground. Provision has been made for cricket-playing, bowling, and a variety of other games. On Whit-Monday the ground was opened to the public, and the representatives of the town of the town. The shops, without exception, were closed, and every street and lane was profusely decorated with flags and streamers. The sight was most picturesque, more especially in the principal streets, where almost every house had hung out a banner.

**ROYAL INSTITUTE OF BRITISH ARCHITECTS.**—An ordinary general meeting of this body will be held on Monday next, when Mr. Arthur Ashpitel, V.P., will read a paper entitled "On some of the Architectural Drawings in the Royal Library at Windsor, and the command of His late Royal Highness Prince Consort, by R. B. Woodcock, Esq., the same meeting Mr. E. Welby Pugin, of 14 Buckingham Street, Adelphi, will be balloted for as a Fellow of the Institute.

**ANNUAL DINNER OF THE ARCHITECTURAL ASSOCIATION.**—The annual dinner of this body took place at the Whittington Club, Arundel Street, Strand, on Tuesday evening, when a large number of the members of the Association were present. The chair was occupied by the President of the Association, Mr. A. W. Blomfield, M.A., and the Vice-President, Mr. THOMAS BLASHILL, the Vice-President. The usual loyal and patriotic toasts having been disposed of, the CHAIRMAN gave the toast of the evening—"Success to the Architectural Association"—which was drunk with the greatest enthusiasm. Mr. BLASHILL responded; after which a vote of thanks was passed by acclamation to the outgoing office-bearers for their services during their year of office. The dinner and wines gave the utmost satisfaction, and a very pleasant evening was spent by the company.

**IMPROVEMENTS IN PARIS.**—The improvements now being made in the north-western portion of the *Quartier Rochefort* are rapidly approaching their termination. The new street to the left of the *Ablatoire Montmartre* is nearly finished, and many houses are in course of erection to the south of the *Avenue Trudaine*, on the site of the old garrows, where the Rue Rochefort-de-Saron is to meet the Rue de Laval, about to be prolonged to the Rue d'Anjou. These and other improvements are in progress, from the course of the *Avenue de Cointine* now in progress, from the Rue de Danquerque to the Rue des Martyrs. This alteration is rendered necessary by the direction of the new streets. The aqueduct will be open from the Rue de Laval to the Avenue Trudaine, from which point it will be tunneled, at a depth of fifteen metres below the surface, and ten shafts have already been sunk. This aqueduct, one of the principal aquatic arteries of the capital, is being executed in length and breadth, and is to be carried to the reservoir at the top of the Rue du Rocher, near the old Barrière de Monceaux. From different points of its mains are carried to the Fauxbourg St. Antoine, across the Pont d'Austerlitz to the reservoir of the Rue St. Victor, near the Jardin des Plantes; to the Chateau d'Eau, and across the Marais and the Pont Marie and de la Tournelle to the left bank; others by the Chateau d'Indre and St. Michel to the reservoir in the Rue de la Roquette; by the Palais Royal and Rue de la Harpe to the reservoir in the Rue de Valenciennes; and also to the Place de la Concorde and the Champs-Élysées.

**THE SKELETON OF RICHARD III.** has been discovered at Bow Bridge, Leicester.—At least so some of the antiquarians of that town. Tradition and history both relate that the remains of Richard III., when taken up from their grave in the Church of the Grey Friars, Leicester, were carried away by the multitude, and thrown over the Bow Bridge into the river. The skeleton recently discovered in the river, which resembles that of having been struck or fractured, whereas Richard's body was "harked to pieces." Richard died at the age of 35, and the bones discovered are stated to be those of a man apparently 30 years of age.

**SEABOROUGH PIERS AND IMPROVEMENT COMPANY.**—The proposed beautiful public works in Seaborough, "the Queen" of the watering places, are likely to be speedily commenced, as they have received the unanimous support of a great public meeting in that romantic and popular town. When we consider that Seaborough has increased 50 per cent. from 1851 to 1861, and that the visitors last season numbered 300,000; that the engineer, Mr. T. Page, C.E., is the most eminent member of his profession; and that the consulting manager, Mr. W. Northhouse, has the prestige of success from the many great companies he has organised, there can be but little doubt that the shares in this will be eagerly sought for.—*Mining Journal*.

**NEWARK BRIDGE, BELFAST.**—The works at the Ormeau Bridge, Belfast, are being carried forward with extraordinary rapidity. The bridge is of the centre span. There are four segmental arches, each of 45 ft. span, and with nine feet rise; the abutments and piers being 22 ft. high. An embankment has been thrown up out of the old river bed, and encloses the entire site of the new bridge, and a large area besides, which is kept dry by a steam pump. The cutting and filling required to form the new approaches are also in a forward state, and when finished will be a great improvement on the old steep descent of one in 20, but now reduced to one in 10; the width being also increased from 30 to 50 ft., or 42 ft. between the parapets. The stone forming the abutments, piers, and sheeting of arches, is from the county Down quarries, within five miles of the structure; that used for the front arch stones (*voussoirs*) being from the county Tyrone. Messrs. Lanyon and Smyth are the engineers, and Messrs. Connor, McLaughlin, and Harvey, the contractors; and Mr. N. Berry the superintendent, on the part of the Board of Public Works.

**THE EMPEROR NAPOLEON AND HIS FATHER'S TOMB.**—Different circumstances had prevented the Emperor from visiting the tomb which he had commanded in the Church of Napoleon-Saint-Louis (Sainte-Marie) for his father, the King of Holland, who had possessed an estate in the neighbourhood, and who was at his own desire interred in the church. Having learnt that M. Perrot, the artist charged with the execution of the statue, had before he took flight recently expressed regret that the Emperor had not, by personal inspection, satisfied himself as to whether the artist had justified the confidence placed in him, His Majesty, three mornings back, left Paris for Saint-Louis to visit the monument. Being pleased with the execution of the work, His Majesty granted a sum of 10,000*fr.*



the decoration of the interior of the church, and left 1,000*l.* with the mayor to be applied to charitable purposes. His Majesty afterwards visited the remains of the chateau formerly inhabited by his father.

**NEWBURY.**—The new Corn Exchange here was opened on Thursday week. The cost of the building is £26,500. Mr. Dodd, of Reading, is the architect, and his design is in the Italian style, varied in front by pilasters and scrolls of the Corinthian style. Nearly half the roof is covered with glass, and the interior is extremely light and graceful. The dimensions of the building are: 160 feet long, 50 feet wide, and 50 feet high. Mr. Fletcher, of Salisbury, was the principal contractor; the other contractors being Messrs. Wilder and Sons, of Reading; J. H. and H. Henson and S. Biddis, of Newbury.

**SYDNEY.**—We find from the Australian papers that considerable progress is being made with the tower of the Sydney University, which was left unfinished at the time the first portion of the building was erected. The tower, which completed will mark the site of the new college, having a clock face on each side, and four ornamental turrets with spires. On the University enclosure the new Roman Catholic College of St. John is being erected, and it is in an advanced state. A new wing to the Australian Museum at Sydney is also in process of erection. The walls are up to the window-sills at one end, and ready for the base course at the other. Considerable alterations and additions are being made to the School of Art. The framework for the roof of the new portion is completed, and will be finished by the end of June. Many other architectural and engineering works are in progress in various parts of the colony; but further reference to them must be reserved for the present.

**METROPOLITAN BOARD OF WORKS.**—At the last meeting of this body, Mr. CAMPBELL, in the chair, Mr. BAZALGETTE, Engineer-in-Chief of the Board, reported as follows, respecting the progress and cost of the Main Drainage Works:—"This being the month for the preparation of the report on the works executed by the Board during the past year, it may be considered necessary now to enter into details of the works constructed in the last month so fully as is usual on ordinary occasions. I, therefore, beg to state briefly that the works generally proceed satisfactorily. The value of the work executed on the Northern Outfall Sewer is about £250,000; on the Middle Level Sewer it is £120,000; and on the Ranelagh and Oxford Roads, from £25,000 to £30,000. The Southern Level Sewer is completed, and the value of the work done on the Southern High Level Sewer is £163,000. On Mr. Pearson's contract, work of the value of about £3,100 is finished, and of the value of about £78,000 on Messrs. Aird's contract for the Deptford Pumping Station."—"The Committee under the Sale of Gas Acts submitted plans and specification for the Gas-Meter Testing House, in Wheeler Street, St. Paul's; and recommended that advertisements be issued, inviting tenders for the execution of the works. (Agreed to.)"

**ANCIENT GUSTEN HALL, WORCESTER.**—Owing to the strong feeling evinced by the public for the preservation of these ruins, their destruction has been suspended, and not only so, but the tracery which belonged to the only perfect window, and which was first pulled down, has been rebuilt on the ruins of another. The question of its final demolition will be considered by the Dean and Chapter at their next meeting.

**NEW BRIDGE OVER THE RIVER SEVERN.**—At an influential meeting held on Friday afternoon, at Hampton's Lodge, near Brighthelm, Mr. Heap, representative of Messrs. Harrison, of the Canada Works, Birkenhead, produced a plan of a wrought-iron lattice superstructure, the total length being 178 ft., or four spans of 40 ft., with a roadway of the width of 15 ft.; and a resolution was then proposed and carried that a Bridge Company should be formed, with a capital of £5,000, in 500 shares of £10 each, with a deposit of 10*l.* a share.

**NEW TOWN HALL, PRESTON.**—The invitation to the Prince of Wales to lay the foundation stone of the new Town Hall at Preston, during the celebration of the Guild, has been declined. In a letter from the Hon. C. F. Phipps to the Mayor, it is said that it is Her Majesty's wish that none of the Royal children should, during the present year, attend any public ceremony.

**THE VICTORIA DRINKING FOUNTAIN.**—The beautiful fountain erected for public use in the second enclosure of Victoria Park, at an expense of several thousand pounds, by Miss Burdett Coutts, is now completed. It is an octagonal temple, with a diameter at the base of 40 feet 9 inches, consisting of Portland and Kentish magnesian. The eight flights of steps which lead to the drinking basins are of Gazeley stone from Yorkshire; the eight piers and the shafts are of red Peterhead, and the bases and pedestals of gray Aberdeen granite, highly polished. These support beautifully-wrought arches, which again bear the capitals, the ashlar moulded work and carving being of Aubigny stone from Normandy. A four-faced pedestal is placed in the center, which terminates in a sun representing the figure of a mermaid. A door is placed in the shaft of the fountain, facing the north; above it is carved the coat of arms of Miss Burdett Coutts, over which again are two inscriptions, one the title of the fountain—namely, "The Victoria Fountain," the other containing the words "The earth is the Lord's, and all that therein is." There are four niches, in which are placed figures of Cupids (carved in Sicilian marble) on dolphins, and benevolent fishers, from which the water flows into the basins, which are of polished Aberdeen granite. These are supplied with cups bearing the following words:—"Temperance is a bride of gold." The panels round the fountain are of Emperor's red marble from Portugal, and gray Connemara

marble. There are also monograms of the name of the giver, and coloured medals, ribbons. Round the fountain runs this inscription:—"Given, Anno Domini 1862, by Angela Georgina Burdett Coutts, and 'For the love of God and country.'" The total height of the fountain is 68 ft. 7½ in. The ground round the erection is tastefully laid out in parterres, with vases of terra-cotta from Grantham. The architect is Mr. Darbishire, and the builders Messrs. Smith, of Finsbury.

**THE FOUNTAINS IN TRAFALGAR SQUARE.**—"The *Observer* says:—"The water is supplied to the fountains from the water-works in Orange Street, which were constructed by Messrs. Eason and Anon, in 1844, and is pumped up into a tank about 10 feet above the pavement of the square, from whence it flows to the two fountains, and the waste or overflow is conveyed back to a catch well, sunk underneath the engine. It is then pumped, by means of an Appold centrifugal pump, into the tank, and thus passes over and over again. In its passage it is made use of to supply the condenser of the two 60-horse pumping-engines, so that not only does the water for supplying the fountains cost nothing, but it is actually made the means of economising fuel, by enabling the adoption of a condensing instead of a high-pressure engine, for the purpose of pumping the water from the artesian wells, for the supply of the different public offices. The quantity of water which was used in the fountains before the present alteration was from 400 to 500 gallons per minute; the Appold pump is arranged to lift from 1,200 to 1,400 gallons per minute, and the water is pumped from the increased number of jets. The wells from which the supply of water is in the first instance derived are two in number: one, at the back of the National Gallery, is 200 feet in depth, and the second, in the enclosure immediately in front of the National Gallery, is 383 feet in depth. A tunnel, about 6 feet in diameter, and 400 feet long, connects the two wells. The water, although obtained from an artesian well, does not rise to the surface, as an engine of about 80-horse power, is required to raise the water from about 90 feet below the surface. The steam-engine has two cylinders, the larger being 35 inches in diameter, with a length of stroke of 6 feet; and the smaller one, 22 inches in diameter, with a length of stroke of 4 feet. It works one double-acting pump, 13½ inches in diameter, with a length of stroke of 3 feet, for the supply to the fountains, and two 18-inch pumps, with a length of stroke of 20½ inches, for raising water from the springs into the tanks above the building. At an average speed of 16 strokes per minute, the fountain pump throws about 600 gallons, and the two spring pumps together 600 gallons per minute. In 1852 the tank tower was raised 20 feet, for the purpose of giving a better supply, at high service, to the upper tanks. In the river front of the Houses of Parliament. The pumping of 600 gallons per minute, equal to 42,000 gallons in 12 hours, lowers the water between 20 and 24 feet; it then remains stationary, as long as the engine is kept working. The height to which the water will stand, when at a state of rest, varies in wet and dry seasons; but the head does not appear to be gradually lowering. The cost of the works, as completed in 1844, was £K392; the annual working expense is £192; but the water supplied to the various public offices, the rates provided for, amount to £594 a year. The Houses of Parliament, the Admiralty, the offices in Downing Street, and twenty-eight public offices in all, are supplied from this source. Up to the present time, the fountains in Trafalgar Square have consisted only of a single jet, falling over from an upper and lower basin. This will still remain, as the centre figure of the basins; but at each of the semicircular bays there is now a group of jets, consisting of a centre and 16 surrounding it. The jet of water from the centre rises about 4 feet, and those in the outside 4 feet. There are, therefore, in the first instance, 68 jets, throwing 300 gallons per minute, rising from the surface of the basin. The ground plan of the basins is a square, the sides of which are about 68 feet long, and semicircular bays project from each of those sides. In the latter, as we have stated, are the circular group of jets. An outline of an octagon is formed within the square, the sides of which angles is a jet, which throws the water upwards, to a height of 20 feet, and into the upper basin of the central fountain. These eight jets throw 200 gallons per minute, and their curve is about 30 feet in length. There are, again, two inferior squares, surrounding the central group, and from each of these angles a jet is thrown upwards, crossing those from the octagon, rising to the height of 25 feet, and curving about 17 feet. These throw altogether 200 gallons per minute. Beyond the sides of these smaller squares are 8 feather jets, which throw up 200 gallons per minute, each of the groups of jets forming a display resembling the Prince of Wales' feathers. The whole of these may be played at one or together, in not less than twenty-five different cautiousities or changes."

**THE ETRUSCAN TOMBS.**—The opening of the Musée Napoléon III, has afforded M. Noel Desvignes, a well-known antiquary, an opportunity of discussing the merits of the precious objects therein contained, in an article published by the *Revue Contemporaine*. As M. Desvignes has himself been engaged in his description of the objects, we cannot do better than let him speak for himself. He says:—"The Etruscans built their tombs presents particular interest. Our author states, after pursuing his excavations for the space of seven years in the Tuscan territory, he at length reached the Pontifical frontier in the neighbourhood of Vulci, the necropolis of which had been ransacked by other archaeologists for upwards of thirty years, and filled the museums of Europe with treasure. It seemed to him that the Etruscans had been so miserably plundered, that there should remain worth taking on a soil which had already yielded so much. Nevertheless, M. François, an experienced explorer of tombs, was of a different opinion. Seeing that the sepulchres explored were all situated at a very insignificant depth, and not remarkable for

any great decorations, he concluded that lower down there must be much richer and larger tombs. After some researches he informed M. Desvergers that on the embankment of Fiora, at an altitude of 90 ft. above the river, he had bored the ground, and found an artificial grotto presenting none of the characteristics of a sepulchre, and which was therefore most probably intended to protect a more important crypt from the effects of infiltration. A shaft was therefore sunk to the depth of 36 ft. below the surface, when a subterranean passage was discovered 9 ft. in breadth, and at the entrance of which there stood a cippus, two sides of which displayed well Etruscan inscriptions. This passage, being long, being cleared, the pioneers at length arrived at the door of the hypogeum. No trace of any previous visit was perceptible, and the tomb appeared to be one of some powerful lumicon, or chief, judging from the length of the passage, the importance of the cippus at the entrance, and the precautions taken for the preservation of the crypt. When the first gleam of light from their torches revealed the interior to mortal eyes for the first time after the lapse of twenty centuries they saw warriors clad in armour round on their sarcophagi; the forms, the vestments, the stuffs, and colours, remained visible for a few minutes, until the air from without, gradually penetrating into the crypt, effaced the whole. All that remained to the persevering explorers was the weapons, jewels, bones falling to dust, and a few threads of gold and silver which had been woven into their garments. The walls were, however, covered with paintings representing an episode of the *Iliad*, and of various other events, evidently pointing to the influence of Greek civilization in Etruria. The crypt had eight entrances, all adorned with the peculiar Etruscan mouldings which Vitruvius calls *hæterophale*, or top-heavy. The inscriptions were ascertained to be of a period anterior to that of the conquest of Etruria by the Romans. M. Desvergers therefore concludes that this tomb dated from the fourth century before our era. Some of the treasures of the Musée Napoleon III. belonged to this tomb.

**WORKMEN'S HOUSES IN EDINBURGH.**—The Metropolitan and Edinburgh Building Associations are each to build two rows of working-men's houses at the Dumbiedykes. Altogether, at this place, 200 houses will be erected, providing accommodation for nearly a thousand persons, young and old. It is the intention of the two associations to build comfortable and substantial houses, and to sell as many of them as possible to the working men themselves, so as to give them their money quickly, and at once proceed to extend their operations.—*Review.*

**STONE-FLYING MACHINE.**—The *Dundee Courier and Argus* says:—"Hunter's stone-throwing machine, which, we are told, shapes and dresses stones for building very effectively and cheaply, is growing into notice much more rapidly than it would have done if there had been no quarrel between the masons and their employers; and if the quarrel lasts much longer, the men may find that, to a great extent, their labour in our department has been superseded, whether, by an agent, or whether, which has appeared in one of our columns, that a limited liability company, comprising some of the leading builders and quarrymen, has been established in Dundee for the purpose of laying and working one of these machines, and that a considerable profit is anticipated. We do not intend here to enter upon the vexed question as to how far the employment of machinery benefits or injures particular classes, or the whole community, but one thing, at all events, we may congratulate the masons on. We have heard a great deal lately of the unhealthiness of their occupation. The unhealthy part of it, we believe, is the dressing of the stone. If this machine answers the expectations which are formed of it, their work will be lessened, but what will remain will be less detrimental to life."

**IMPERIAL HOTEL, GREAT MALVERN.**—This hotel, the property of the Great Malvern Hotel Company, is now fast approaching completion, and will, it is believed, be ready for opening next month. It is built after the model of the Great Western Hotel at Paddington, and the style of the architecture is the Continental Gothic. The expense of the building, with its adjuncts of a bridge and covered way, will exceed £25,000. It is situated near to the Great Malvern Railway-station, on an eminence, and not far from the Barons' Green Road. The architect is Mr. E. W. Elmlie. Mr. Thomas Clarke, builder of the Malvern, is the contractor, assisted by his nephew, Mr. Edwards. The building is composed of red brick, with Bath stone and Forest stone dressings, the roof, which forms a prominent feature in the design, being covered with green and purple slates. The difference in colour of the materials, the blue Forest stone and the white Bath stone, gives to the exterior an appearance both novel and pleasing. There are two principal fronts, the west and south. The exterior is very handsomely decorated. The two most prominent features besides those already mentioned, are the tower, about which there is some clever carving, and a beautiful oriel window over the chief entrance, forming the terminal of the corridors on the upper floor. This window is considered to be one of the most magnificent of its kind in England.

**THE WELLS, GREAT MALVERN.**—The Roman Catholic chapel is fast approaching completion. The Wells church is about to undergo a thorough renovation and repaving, and a spire to be erected on the tower.

**SOCIETY FOR THE ENCOURAGEMENT OF THE FINE ARTS.** A convocation of this Society, the fifth of the season, was held under the most brilliant auspices at the Mansion House, on Wednesday evening, when the entire suite of rooms was, through the kindness of the Lord Mayor, who is Vice-President of the Society, thrown open to the visitors. The Egyptian Hall and other rooms were decorated with flowers, evergreens, &c., and also with oil and water colour paintings, and groups of statuary, lent

for the occasion by amateurs and others. This *reunion* was very numerously attended, there being present about 1,200 ladies and gentlemen, of whom a large number were foreigners, attired in various costumes. Amongst the distinguished strangers present were the President and ex-President of Liberia and suite, and several Italian princes and princesses. The Lord Mayor in the course of the evening briefly addressed the visitors, tendering to them a hearty welcome to the Mansion House, and speaking highly of the Society for the Encouragement of the Fine Arts, which he believed would one day be acknowledged as one of the most important and valuable institutions in the country. A concert followed, in which the principal performers were Madlle. Titiola, Madame Liebhart, Madame Housie, Miss Van Noorden, Madame Gilbert, Signor Giraldini, Herr Reichardt, M. Naudin, Mr. Santley, M. Ascher, Mr. Henry Distin, &c. The conductors were M. Desdier, Mr. Alfred Gilbert, Signor Randegger, and Herr Ganz.

**THE UNDERGROUND RAILWAY.**—Considerable efforts are being made by the contractors for the formation of the above line of railway, to have it completed at the time proposed; and during the last fortnight much progress has been made towards carrying that object into effect. All the stations are progressing in a most satisfactory manner, and they will be shortly finished. There is only one portion of the line, between Paddington and Coppice Row, Clerkenwell, in an incomplete state, and this is in the Marylebone Road, at the top of Gloucester Place, where a station is being formed. From Coppice Row to the City terminus, hundreds of men are employed in the necessary excavations for continuing the open cutting to the intended station adjoining the Field Lane Ragged School; and the double line of tramway is laid within a short distance of the Sessions House, to carry the earth excavated to the City terminus, which is done by a steam engine. Owing to the long days, the navies are at work from an early hour in the morning.

#### CHIPS.

**A**n immense factory is now building on an extensive site of land situated on the river bank at East Greenwich, for the company recently formed to build boats by machinery, on the plan of an American inventor.

The Halifax Town Council have determined to invite the Prince of Wales to open the magnificent Town Hall erecting in that borough. October next is the time named for the event.

Mr. J. W. Malvern, M.P., has announced his intention of erecting two commodious schoolrooms on his estate at Frith Ville, near Boston, for the education of the children of the neighbourhood.

Amongst the curiosities lately added to the Tower is a tablet of granite, on which is fixed a brass plate, stating that "On this spot Ann Boleyn (mother of Queen Elizabeth) was beheaded in 1536."

Up to the end of March last £575,000 had been expended on the national defences. The estimated cost of works and land was about £7,000,000. General accounts leave an available balance of £216,000, which will only suffice to meet payment of works under contract up to about the end of August next.

The Ranby House estate, midway between Retford and Worksop, has been purchased for Lord Lincoln, eldest son of the Duke of Newcastle, for it is said, the sum of £55,000. The estate is well timbered, and is of great extent.

A statue to the late Joseph Sturge was unveiled on Wednesday at Birmingham, on which occasion Mr. Bright addressed those present.

Mr. Gould's letter of £545 for the erection of the new Ragged Schools at Gravesend has been accepted by the Committee.

Mr. R. Clarke's (architect, Nottingham) designs have been chosen for the square of buildings, consisting of Bank, first-class dwelling-houses, and shops, at Leeds, Yorkshire. The working drawings are in progress, and will be shortly advertised for tenders for the work.

The Architectural Exhibition, 9 Conduit Street, Regent Street, and the collection of drawings and sketches of the late A. W. Pugin, will close on the 31st instant.

Mr. James Carmock, artist, who largely contributed to the establishment of the Fine Arts Academy, at Bristol, died on Friday, in his 49th year.

The oldest painter in Paris, Ingres, who is in his eighty-third year, has just finished a painting, "Christ among the Doctors of the Synagogue."

A prospectus has been issued of the Strand Hotel Company, with a capital of £100,000, in shares of £5. The site proposed is that of Lyon's Inn, comprising about half an acre.

Above £24,000 have been subscribed to a fund for building the memorial hall in the metropolis, and erecting new chapels in the provinces, in celebration of the Bicentenary of Nonconformity. Some promoters of the movement are sanguine that even this sum will be doubled during the current year.

The new wing just added to the West of England Institution for the Deaf and Dumb was opened on Tuesday last. This wing has been built at the cost of £1,025, by Messrs. Grant and Son, from designs by Mr. G. W. Canning, architect.

On Thursday, June 5, the 100 National Schools were opened. The cost of the school-room and master's house was about £750, exclusive of the site.

The Albert Memorial Committee met on Wednesday, at the Mansion House, under the presidency of the Right Hon. the Lord Mayor. The total amount received was announced to be £50,220.

On Monday last the foundation-stone was laid of the new District Church at Lendon, Widdicombe. Mr. Rowell, of Newton Abbott, is the architect; and Mr. J. Chudleigh, of the same place, is the builder.

Captain the Hon. Windsor Clive and Mr. Botfield, the members for Ludlow, having ascertained that £500 still remained unpaid of the sum due for the late restoration of Ludlow Church, have, without solicitation, generously paid that amount at the disposal of the committee.

The Government, while declining to afford the Atlantic Telegraph Company any pecuniary assistance, have granted the use of ships for the purpose of making a more complete survey of the line between Ireland and Newfoundland. Soundings, it is stated, will be taken every mile, instead of at the wide intervals deemed sufficient when the project was originally started. Government ships will also be detailed to assist in the submersion of the cable.

The first annual meeting of the Edinburgh Corporate Building Society was held on Tuesday last. The net profit on the Society's transactions since its commencement amounted to £112 17 9d., which gave a return of 13 per cent. on the paid-up capital for the year.

Sir T. G. Hesken, Bart., M.P., has given a plot of land at Holmeswood, near Rufford, for the erection thereon of a Wesleyan chapel.

This evening Mr. Augustus Smith will call the attention of the House of Commons to the proceedings of the Westminster Improvement Commission, and ask the Chairman (Mr. Ems) what steps have been taken as to opening to view the south side of Westminster Abbey.

On Tuesday morning last the works commenced for the extension of the Government office, and the erection of the new Foreign Office on the ground recently cleared of the houses between Downing Street and Charles Street, and St. James's Park and King Street, Westminster, and a number of workmen were engaged in laying the foundations. The demolition of her Majesty's Station Office, in St. James's Park, is now being proceeded with to make way for the new building.

Two fine colossal statues of Lord Chancellor Eldon and Lord Stowell have recently been placed in a very handsome library, erected for the purpose of receiving them, in University College, of which Society both these illustrious brothers were formerly Fellows. They are sitting figures on one pedestal, about seven feet six inches in height, executed in the finest Carrara marble.

The anniversary meeting of the Eccelesiological Society is to be held in the Lecture Theatre of the South Kensington Museum on Tuesday, July 1, and a discussion invited on the eccelesiological aspects of the International Exhibition, and of the Exhibition of Objects of Fine Art on loan in the South Kensington Museum. It is proposed that the meeting should be preceded by a visit to the latter, and by a club dinner in the refreshment department of the International Exhibition.

## TENDERS.

**MALTING, BEDFORD.**—For the erection of a 140-cv. malting, containing a ground-floor, and three upper floors, with malt and barley chambers, and offices complete, for Bingham Newland, Esq., Bedford. Mr. John Day, architect.

Conquest (Kempston) .....	£2,957 5 8	Wm. Smith .....	£2,560 0 0
Houghton .....	2,500 0 0	Freshwater (accepted) .....	2,489
Myrfield and Son .....	2,280 0 0	Byratt (last) .....	2,415 0 0

**CHICHESTER CATHEDRAL.**—For the completion of the tower and spire of Chichester Cathedral.

James Beadland, Bradford .....	£1,800	Roby, Littlehampton .....	£1,800
Yorkshire .....	£7,746 4 0	Smith and Co., London .....	45,757 0 0
Rustall and Thompson, Peter .....	2,963 0 0	Fabian, Brighton .....	£1,288 0 0

By agreement .....

The lowest tender was accepted.

**ENNER.**—For certain alterations to Warren Wood House, Woodford, Essex, for K. Mackenzie, Esq. Mr. J. H. Rowley, architect, 17 St. Helen's Place, City.

Tarrell .....	£100 0 0	Bunce (accepted) .....	2,102 5 0
Davey .....	182 0 0		

**CHURCH RESTORATION, LINCOLN.**—Tenders for restoring Washington Church, Lincoln. Mr. Goodard, architect.

Freud .....	£1,000 0 0	Henderson (accepted) .....	£,798 0 0
Reeve .....	680 0 0	Smith .....	455 0 0
Ward .....	1,000 0 0		

**CHAPEL, PENDLETON.**—New chapel at Pendleton, Manchester, for the Methodist New Connection. Mr. Robert Sewer, architect. Quantities supplied.

Neil .....	£2,902 0 0	Statham and Son .....	£2,752 0 0
Tarrell .....	£100 0 0	Metcalf and Waterman .....	2,807 0 0
Penk .....	2,798 0 0		

**COTTAGES, POTTERIES ESTATE, PLUMSTEAD, KENT.**—For building and complete finishing two semi-detached cottages, Eglington Road, "Potteries Estate," Plumstead, for Mr. Philip Thomas, M.P., architect.

Lodwick .....	£655 0 0	Greenwood .....	£610 0 0
Bonnes .....	612 0 0	Smith .....	565 0 0

**HOUSES, PECKHAM.**—For finishing four houses in the Montpelier Road, Peckham, for Messrs. Hart and Loring, F. G. Widdows, architect.

Greenwood .....	£,400 0 0	Wheen .....	£347 0 0
Trotter .....	340 0 0	Jelly .....	545 0 0

**VILLAS, TOLLINGTON PARK.**—For erecting a pair of semi-detached villas, Tollington Park, Herts, for Messrs. F. G. Widdows, architect.

Heath .....	£560 0 0	Foster .....	£2,745 0 0
Ennis and Goodwin .....	250 0 0	Greenwood .....	1,984 0 0
Smith .....	1,984 0 0	Wheen and Ashford .....	1,984 0 0
Carter .....	1,984 0 0	Wheen .....	1,984 0 0

**NORTHVIEW.**—For erecting new parsonage house at Thorpe Hamlet, T. D. Barry, Esq., architect and city surveyor, prepared plans and supplied quantities, &c.

Brooks .....	£1,175 18 8	Lacey .....	£1,975 0 0
Fogson .....	1,147 0 0	Wheeler .....	1,150 0 0
Brown and Bailey .....	1,135 0 0	Balls and Langston .....	1,195 0 0

**RECTORY HOUSE, CHALVINGTON.**—For a new rectory house at Chalvington, Sussex, for the Rev. Trayton Fuller. Mr. James G. Smither, architect. Quantities supplied.

Palmer .....	£1,457 9 0	Constable .....	994 0 0
Darvey .....	1,159 0 0	11 and C. Ford .....	994 0 0
Timms .....	1,090 0 0	Wardle and Baker .....	970 0 0
Jones .....	1,027 0 0		

**SHOP FRONT.**—For putting in new shop front, and doing sundry repairs at 79 Westbourne Street, for Mr. William Pitch. Mr. Henry McCally, architect.

London Building Company .....	£96 0 0	Perry .....	£,61 0 0
Minty .....	196 0 0	Cully .....	155 0 0
Munro .....	175 0 0	C. and W. Fortenace .....	144 0 0

**ROADS, TERRACES, AND SLOPES.**—For laying out grounds, forming roads, terraces, and connected with the same, at the Rectory, Eglington Road, and laying the corridors, &c., with site-pavement, at the Jews' Hospital, Lower Newwood, Surrey. Messrs. Tibbitt and Chamberlain, architects.

W. Wells .....	£1,109 0 0	Mr. Rogers (accepted) .....	£1,110 0 0
Mr. Colson .....	1,154 0 0	Mr. Winn (accepted) .....	650 0 0

**FOR Porter's Lodge.**

Messrs. Porter and Wheeler .....	£,377 0 0	Mr. Cannon .....	£,395 0 0
Mr. Fish .....	375 0 0	Mr. Wells (accepted) .....	323 0 0
Messrs. Ashby and Sons .....	204 0 0		

**For life paving to corridors, &c.**

Messrs. J. and G. Rowson .....	£204 12 0	Messrs. Cannon (accepted) .....	£185 0 0
Messrs. McColla .....	108 13 0		

**CHURCH.**—For alterations to the English Presbyterian Church, Shrubland Road, Dalston. Messrs. Tibbitt and Chamberlain, architects.

Mr. Fisher .....	£,416 0 0	Mr. Fish .....	£,230 0 0
Mr. Cannon .....	340 0 0	Mr. Wells .....	218 0 0

## COMPETITIONS AND CONTRACTS OPEN.

**DECORATION.**—For the Decoration of the Exchange Hall, Stamford. Tenders to be delivered on or before Friday, the 20th of June, to Mr. Edward Browning, architect, Stamford.

**ENGINE HOUSE.**—For the construction of engine-houses, a boiler-house, chimney, fifth-wheel, and coal, and settling houses, wharf and other works, to be constructed therewith, at Croxson, in the parish of Epsith, Kent. Parties desiring to submit tenders may, upon payment of £25, obtain plans, sections, specifications, form of tender, and other particulars, on application to Mr. J. W. Randall, Esq., Engineer, the above at the office, Spring Gardens, between the hours of 9 a.m. and 5 p.m., on Saturdays between the hours of 10 a.m. and 4 p.m. On Thursday, the 13th of June, the plans and specifications will be referred to each of the unsuccessful parties who return the drawings within one week after the day appointed for opening the tenders. The tenders are to be addressed to the Clerk of the Board, and to be delivered at his office, 47 Old Broad Street, London, on or before the 3rd day of July next; and no tender will be received after that hour. The parties tendering must be in possession of the Board of 12 certificates of approval for opening tenders.

**CHAPEL, SCRODS, ETC.**—For the erection of a new Wesleyan Chapel, schools, &c., at Cad-ton, near Cardiff, particulars of which may be had on application to the architects, Messrs. W. G. Habershon and Pitts, 25 Bloomsbury Square, London, W.C.; Park Square, Newcastle-on-Tyne; and 17 Regent Street, London, W.C.

**SCHOOLS.**—For the erection of school buildings, at Sutton-le-Marsh, near Aiford. Plans and specifications may be seen at the house of Mr. B. Ibbotson, jun., Sutton, and tenders to be received on or before Saturday, the 15th of June.

**PATENT.**—Tenders are required by the Burial Board of St. Mary, Newington, Surrey, for painting the whole of the iron railings of the parish churchyard, at Newington Butts. Specifications and forms of tender may be had on application to Mr. Joseph Burgess, Clerk to the Board, 1 Kene's Row, Walworth, S.

**GASWORKS.**—Tenders are required by the Yorktown and Blackwater Gas Company, limited, for the erection of their works, and laying about two miles of mains. Plans and specifications to be sent on application to Mr. Withers, assn. Yorktown, Blackwater, Hants, or to Mr. Harris, engineer, Great Central Gas Works, Rye Common, London. Tenders, endorsed "Tenders for Gas Works," to be sent to Mr. Withers, assn, on or before the 25th of June.

**GATES AND BOUNDARY WALL.**—Tenders are required for back entrance gates and boundary wall, to ground in rear of the Staff College, Sandhurst, Berks. Parties desiring to tender must first obtain the plans from the Royal Engineer Office, Sandhurst, on or before the 10th day of June, and pay the sum of 10s. id. for the bills of quantities, which will be forwarded to each party as soon as prepared by the Government Surveyor.

**Public Hall.**—Plans, sections, and specifications, and estimates are required for the erection of a public hall at Turnbridge Wells, with reading, writing, committee, and refreshment rooms, cookery, canteen, &c., on land with 150 ft. frontage to a public road, of 10 ft. wide, at Turnbridge Wells. The hall to be used for the use of the public, and to be of 60,000 ft. sq. will be given for the site of the plan, &c., adopted, provided the architect is not approved and 45 for the next approved one. Information and a drawing of the site may be obtained of the Secretary, Mr. John Colman, Royal Life Guards, High Street, Turnbridge Wells, to whom plans, &c., must be sent, not later than the 10th of July next.

**SCHOOL HOUSE, READING, &c.**—Design, plans, specifications, and estimates are required for the erection of a new school-room and residence for the master, upon a piece of ground situate in Woodbridge, Bedford, adjoining other land, the property of the Bedfordshire and Huntingdonshire Railway, and situate upon a plan of the site, together with instructions and particulars, for the guidance of competitors, will be forwarded on application to Mr. J. R. Wood, the Clerk to the Trustees, at his office, Church Street, Bedford, on or before the 1st day of July next. It will be given for the site, &c., £10 for the second bid; such designs to become the property of the Trustees. The sum to be expended is not to exceed £2,500.

**COAST-GUARD STATION.**—For the erection of a coast-guard station at Felpham, near Dover, Sussex. Drawings and specifications may be seen at the coast-guard watch-room, and at the Admiralty Coast-guard Office, Whitehall, London, S.W., where tenders are to be sent directed to the Commanders General of Coast Guard, and endorsed "Tender for Felpham station," not later than the 22nd inst.

**SEWER.**—For constructing four sewers. Plans, sections, and estimates may be seen, and the bills of quantities and further information obtained by applying to Mr. R. E. Rowe, Town Surveyor's Office, 10 Emmanuel Street, Cambridge. Tenders to be delivered by June 15.

**SEWERS.**—Tenders are required by the Board of Works for the Fulham district, in the County of Middlesex, for the laying down, constructing, and completely finishing a brick sewer, of 11 ft. 6 in. in length, and other works connected therewith, in the New Road, Hammersmith. Plans, sections, and estimates, and details drawings of the works, together with the form of tender, may be seen at the office of the Engineer, at Broadway House, Hammersmith, between the hours of 10 a.m. and 5 p.m., on any day previous to June 15, and tenders are to be delivered on or before that date, addressed to the Chairman of the Board, at their office, Broadway House.



## THE REGULATION OF ARCHITECTURAL COMPETITIONS.

A PAMPHLET in the form of a letter, on the above subject, has reached us—printed for private circulation by Mr. John Honeyman, Jun., a member of the Glasgow Architectural Society. It seems that the subject of the regulation of architectural competitions has come before the members of that Society, and that they have determined to try a scheme similar to the one attempted by the Architectural Association a good many years ago—namely, the establishment of a code of regulations, by which competitions are to be governed in such a way as to secure fairness to all parties.

The very serious nature and extent of the evils attendant upon the present mode of conducting architectural competitions, have been too frequently acknowledged to admit of a moment's doubt. It is quite certain that to all engaged in them, to employers quite as much as to architects, any effectual plan for checking those evils would be of the greatest advantage, and there can be little doubt that improvement must and will come, so great is the desire felt for it among the members of the profession.

It will be necessary, before competitions can be established upon a basis at once satisfactory and permanent, to restrain competitors from certain questionable proceedings, at present frequently taken, and also to restrain those who invite architects to compete, from occasioning certain irregular and unbecoming omissions, which are equally frequent. All the schemes hitherto brought forward have been based upon this necessity; they have consisted of regulations, some intended to be binding on competitors, and others on those who invite competition; but they have overlooked the all-important question, "What power is competent to exercise the restraining influence admitted to be essential?"

It is the misfortune of almost all proposals hitherto made, to labour under the same difficulty as the celebrated scheme of the mice who proposed to "bait the cat;" the remedy would indeed be effectual, but no one is able to apply it.

As regards employers, it is quite clear that neither architects nor anyone else can, by any regulations, prevent public bodies or others from putting just what advertisements they please into the public papers, and offering what premiums they please, under whatever conditions they think proper.

This has been so obvious that the reformers of competitions have almost always admitted its truth; they have, however, concluded justly enough, that could they get the whole architectural profession to agree never to compete except upon certain terms, they should reduce the public to the necessity of accepting those terms as often as they thought it necessary to incur the cost of competing architects.

To obtain the unanimous consent of so large, so scattered, and so irregularly constituted a body of men as the members of the architectural profession, to any set of rules, will be found far more difficult than has been supposed, and probably there is not a single point among those which will be uniformly admitted to stand in need of remedy, which all would propose to rectify in the same way.

Men also feel, that although they would gladly conform to any just regulations, to which all the members of the profession subscribe, they will not bind themselves to a code, however reasonable, to which only a few, or even to which only a majority of architects have given in their adhesion; for the effect of this would be, to shut themselves out from advantageous competitions, and to leave the way to success all the more open to less scrupulous rivals.

The particular scheme advocated in Mr. Honeyman's pamphlet is open to the same objection which lies against other proposals to establish a code of regulations, to a greater degree perhaps than they; and it seems not unlikely that, if accepted, its operation would be less satisfactory than that of other schemes. The idea is, that architects are to enter into an agreement, that so often as they compete for architectural work they will conduct their competition in a certain way; and further, that any competitor who has entered into this bond, and is found to have gained a competition in any other way, is to forfeit a considerable sum of money.

There is less likelihood of this proposition being generally agreed to than almost any other which has yet been brought forward; there is, further, the certainty that if it were established, while it might to a certain extent operate as a check, there would result from it litigation, heart-burning, and dissension to no common degree; and lastly, we cannot help feeling, that such a regulation generally agreed to would seem very much to stigmatise the architectural profession in the eyes of its own members and of the public.

We believe that all these methods, which partake of the nature of compulsion, will and must fail, and that the real remedy lies in the moral influence which the growth of a high tone of professional feeling and unanimity among architects will exercise, and in the use of such moral means as will make no pretension to compulsion, and will consequently not provoke resistance or distrust.

United action, and the sort of *esprit de corps* which will prevent a man's doing for his own benefit that which will damage the profession to which he belongs, is not a thing to spring up all at once, and the great stride which the architectural profession has made in a few years may well be supposed to have introduced elements which time and care will be required to consolidate. The process is going on, however, and we doubt not that the day is approaching when the general feeling of the body of architects will far more effectually hold back men of weak principles from disputable modes of gaining practice, than any code of laws which can possibly be framed.

The Northern Architectural Association has set an example, in the direction of attempting to guide public bodies, which deserves consideration. Its members have agreed upon certain conditions, which they can recommend to committees and others as those which they conceive likely to ensure a fair competition; and whenever a competition is announced, the Secretary of the Association forwards a copy of this list of conditions to the conductors of it. In some cases they have been adopted; and we believe that were other architectural bodies to pursue a course thus moderate and dignified, they would be more likely to effect their object than by advocating or attempting to enforce more forcible measures. Many, we believe most, committees and public bodies are sincerely desirous to do right; and when they sanction a job, do so because one or two of the most clever and least principled of their number have succeeded in carrying matters their own way; and a document of the nature of suggestions, coming from a source of usually good standing, and on the face of it fair and business-like, would be likely to command assent, and to be adopted without difficulty in many cases. At any rate, the proper way to go to work is to establish and exercise a moral influence; and we fear that the suggestion of the pamphlet before us, however well meant, has more of material than moral force in its nature.

## ART AND MANUFACTURE.

WHEN any object of use or luxury is frequently demanded, the making of it begins to assume that regular and systematic form which we call manufacture. Articles that are seldom wanted, or which have some peculiarity of their own, are usually said to be made, while those which, like soldiers' uniforms, are made in large numbers, and of certain specified sizes, are said to be manufactured.

This broad distinction between making and manufacturing is one that we do well to bear in mind, because the application of art to handicraft is governed by two essentially different principles, according as the work to be done is or is not a piece of manufacture. In the one case the workman must be an artist, in the other it is the maker of the original pattern, and not the actual handicraftsman, in whom the feeling and skill of an artist are required. Let us, for instance, compare ornaments in wrought and cast iron. The workman engaged upon a piece of ornamental wrought iron work may or may not have originated the entire design. He may or may not work from a sketch, a drawing, a model, or even a completed piece of iron work. In any case, however, the character of the completed work depends not a little upon his artistic feeling and skill. If he have an original in the same metal before him, the degree in which he will catch its spirit and reproduce it depends entirely upon his skill and cunning.

With cast iron, however, the workman has a very subordinate part to play. A pattern is put into his hands, and all he does, or can do, is to take a very accurate impress of that pattern in sand, and then to pour molten metal very steadily into the mould. The pattern that came into his hands is the circumstance which influences the character of the ornament produced, and so long as he can mould neatly and pour steadily, any number of castings may be produced, each like the other and quite independent of the workman's possessing or wanting artistic sense and taste.

That the difference here pointed out obtains, between all articles manufactured in quantities and all those made singly, will probably be admitted without hesitation. We admire the art of the carver when we examine a cornice carved in stone or wood; but when we admire an enriched plaster cornice, though we may praise the workmanship of the plasterer, we admire the art of the original modeller. The painter gives the impress of art to a picture, of which he with his own hand lays the colours on to the canvas; but in an engraving we owe the beauty and value of the work, not to the printer who spreads the ink on the plate and passes it through the press, but to the engraver, whose cunning cut into the plate those original lines.

Just as there is higher art in painting than in engraving, in sculpture than in plaster casts, in beaten work than in metal-work; so there always will and must be the highest excellence in those productions in which the same mind which originates guides the hand that executes. Though this be true, there is an absolute necessity for the adoption of the principle of manufacture in meeting the wants of a populous and civilised country. Hence it comes to pass, that in

executing works, even of an ornamental nature, we are obliged to be content with only seldom employing artistic handiwork, and to resort to rapid methods of manufacture.

This necessity being admitted, it remains that, while we should jealously guard against the infringements which manufacture is likely to make upon the legitimate domains of art, we should at the same time exert ourselves strenuously to ensure the assistance of the best art available for forming the patterns and originals of all manufactured goods. We have been of late sincerely desirous to extend the application of art manufactures, and have succeeded wonderfully well; we have also done a great deal within the last few years to improve the taste and skill of the designers of all sorts of ornamental articles and objects. It is, however, to be feared that we are by no means equally on our guard against the danger of allowing manufacture to usurp the place of handicraft, in even the highest departments of art; and it is principally with a desire to draw attention to this danger that the subject is now considered.

The ordinary architecture of the day (and architecture is generally the truest exponent of the state of popular taste) is one admitting of as wearisome a repetition of the same pattern time after time, as any which can occur in the manufacture of wall-paper, or table-cloths, or in the state of Paris in this respect much better than that of English cities. In short, a vast majority of our buildings may be compared to the Latin and Greek vases produced by the hundred lines at public schools, constructed upon a definite form, supplied with metaphors, similes, and epithets, from a supply carefully classified and alphabetically arranged in the "Gradus ad Parnassum."

The very fact that symmetrical repetition of equal and similar features, is one of the main sources of effect in all the classical styles, and that the classical styles or corruptions of them have been, since the Reformation, the only ones generally popular in this country, has induced a strong inclination to promote the endless repetition of those small details where carving or other handiwork might have been happily introduced, to stamp an individual character upon a whole building. A portion of a building; and in the most fortunate case the Gothic revival has at last come, and drawn attention to the value of the opposite principle, that of endless variety and individual character, both in features and in buildings.

While good Gothic work will always command and require the labours of original artistic workmen, in many branches, we cannot but see that the manufacturer has been called in, not only to aid the architect by the production of simple, and necessarily manufactured articles, such as tiles, window quarries, or crests, but even to supplant the art-workman in portions of the building, which can ill afford to lose the characteristic touch which the individual workman alone can give.

There is nothing so truly living and artistic about a building, as the carving on its nooks and corners, its angles, pinnacles, and bosses; yet we have carving-works, where the work is performed wholesale by machinery, and if we do not also carve stone by a similar process, it arises more from the intractability of the material than from an indisposition to subject it to the steam-engine and the drill. But metal work illustrates, far more than any other work, the danger of allowing the wholesale manufacturer to invade the domains of the artist. Nothing affords finer scope for the display of original design, and of good artistic feeling in the workman, than the ornamental hinge found on the face of a Gothic door, and the beaten finials which mark the highest points of the roofs, or crown the summits of spirelets, dormers, or other small features; yet how seldom is the hand of an artist—an original worker—discernible in these features, particularly in the hinges! We get the pattern-book of one of the manufacturers of such articles, and having satisfied ourselves about the price, the discount, the extra charge for carriage and packing-cases, and the length of credit given, we order a pair of hinges, No. 25, or No. 50; and a ring, No. 12, and latch No. 2, just as if an ornamental feature on the level of the eye, and exhibited with every advantage of contrast, of colour, as well as proximity, were not as worthy of the best design and original handiwork as the bosses that stop the label which shelters the doorway, or the tender garland of spring flowers which twines and curls in the deep hollow running round it not twice inches away!

It is of course true that, but for the artistic and inexpensive way in which such articles are now manufactured, they would be omitted altogether from very many economical buildings to which they form an agreeable ornament, at an almost nominal expense; but this is no excuse for adopting cast hinges and cast-iron finials in places where the funds exist for original work. Where the character of the work rises to that of pure art, the importance of avoiding manufactured ornaments, and replacing them with wrought ones, is very great.

Such a work as the Hereford screen at the International Exhibition, purely ornamental in intention, rich in design, lavish in decoration, and especially beautiful from the variety of its colouring, presents, in its smallest parts, an amount of repetition which would not have

occurred in a mediæval work of the same value. True, the middle age workmen would have wrought upon it for more years than the "Skidmore Art Manufactures Company" have done months; but it is thus only that a great piece of purely ornamental work ought to be produced, and thus alone that it can be rendered instinct with life and beauty, to the tip of every tendril and the heart of every feature and leaf, and thus alone that it can thoroughly merit the place of a work of the highest art.

We have chosen this illustration, because this repetition of minor features in a work of confessedly very high merit, coupled with the ominous title assumed by the well-known makers of the screen, and with the still more ominous phrase showered upon those makers for the speed with which the work was done, argues unfavourably for the course in which we are going; and will even compare unfavourably with the best examples of Renaissance work, where the temptation to abandon all attempts at individuality of workmanship is far stronger than it can possibly be in any work of Gothic character.

One thing must not be altogether passed over, and that is the possibility of adding nobility to almost any article of artistic manufacture by employing design in the use of it. For this purpose the articles themselves usually require to be simple, or they will not lend themselves well to the duty required of them; employed by an artist, the most simple coloured tiles, arranged in a good pattern, will surpass in merit the most elaborate manufactured pavement; the plainest glass quarries, well used, will outshine the most brilliant embossed window; and the simplest geometrical mosaic will give more real pleasure, and show more true art, than the most elaborate piece of machine carving untouched by the chisel of the workman.

For these purposes art-manufactures are good, but as a substitute for real original art they are bad; and plentiful, cheap, and specious as they are, it will require all our watchfulness, especially in this age of haste and inattention, to prevent their being adopted for uses which they cannot properly subserve, and exalted to positions which ought either to be occupied by something better, or honestly left vacant.

#### THE TRUTHFUL IN ART.

ON the 3rd of this month, Mr. Robert W. Edis read a paper before the Architectural Association, on "The Truthful in Art." This paper may be considered a fair sample of many others read before our architectural societies. It is a model of the forcible feeble style. Its writer appears to be lost in a fog, which is only occasionally lit up by scintillations of sentiment. Mr. Edis was certainly the victim of some melancholy longing, which his language can scarcely so really can satisfy. He, evidently, can only see through a glass darkly. Everything wears to his eye a shadowy indistinctness. He sees in every direction men as trees walking. Where an ordinary person would behold a church tower, Mr. Edis would see pictured before him a kind of pillar, half fire and half cloud, which recedes into the dim distance when approached by mortal feet. He appears to be overwhelmed with the vast power of his own imagination. He takes the greatest possible liberty with nature and the English language. He tosses about phrases in fantastic confusion. He piles up a pyramid of epithets, and complacently examines it as a glorious work of art. He comes before the world as a preacher who does not understand his text. As a proof that we in no way misrepresent him, we will take as a sample a sentence or two from the introductory portion of his paper referred to. "To know," says Mr. Edis, "a truth well, we must fight it out; to gain that knowledge we must diligently strive to act up to those better principles and nobler thoughts which lie in the hearts of most men, and which, until the heavy cloak of indifference and carelessness in the first place, and falsehood and hypocrisy in the end, would ever appear openly, as the glorious sunlight of the heart words that lie within, guiding away right through the night of our own poverty and obscure nature, which so long has obscured the truthfulness in us. Truth, then, is the great veil of Nature which God has spread over eternity; so Art lifts the veil which conceals the glory which once was, and shows forth all the beauty therein, bringing out all that is latent in fabric and jewels, stone, marble, and all else that is, and Truth combined with Art, must tend to lift man from the mere material and sensual in art, to the ethereal and highest nobility. And it should be our earnest purpose to strive to use well and properly that which learning and science has placed within our grasp; there must be throughout our striving an undercurrent of conscientiousness and truthful endeavour, a something which casts out all that is false, all hypocrisy, and leads us to look at our noble art, not in the light only of making money, but as something to teach to future generations some little good, to write down in the pages of the present as we best can, and with the best of our ability, some few lines of the great art-poem, that has been ebbing and flowing from good to bad in past generations, and must still ebb and flow till all becomes as the

baseless fabric of a vision. Truth is a great virtue, in all art as in all else," &c.

If Mr. Edis or anyone else can see any rhyme or reason in this passage, he must possess more intelligence than falls to the ordinary race of mortals. The first sentence consists of a string of words put together with no definite meaning or purpose. We have vainly endeavoured to get at the idea with which the writer must have supposed he was inspired when he constructed the sentence. We are told something about "the better principles and nobler thoughts of the heart;" and something about "the heavy cloak of indifference and carelessness in the first place, and falsehood and hypocrisy in the end;" and of "the long night of our own perversity and obdurate nature," which have obscured the truthfulness in us. But what do all these fine words mean? Mr. Edis leads us into the dark and leaves us there. Would it not be better to have fewer splendid phrases and simpler ideas? When the author assumes the functions of the interpreter of Truth, he does not shine more conspicuously. He says, "Truth is the great veil of Nature," but we do not see why it should be so, any more than that Nature should be the veil of Truth. Then we are told that God has spread this great veil of truth over all eternity. A moment before it was the obduracy of our nature which obscured the truthfulness within us, now it is truth obscuring all eternity. Why truth can or should obscure all eternity we are not told. Having boldly advanced into the very *sanctum sanctorum* of the universe, Mr. Edis becomes more courageous, and proclaims the mission of Art. "Art," he says, "lifts the veil which conceals the glory that once was." According to this teaching, truth is a veil, and glory no longer exists, as it "once was," but this glory that "once was," still possesses "beauty." We should have thought that truth, instead of being a veil, was veiled by ignorance and prejudice, and that Art assisted to lift the veil so that men may see the beauty of truth.

Not satisfied with giving one memorable revelation in a sentence, Mr. Edis, without stopping to ask how it is truth obscuring all eternity, says that Art, which lifts the veil of truth spread over all eternity, also brings out all that is latent in fabrics, jewels, stone, marble, and all that is concealed in eternity. Now, with our less imaginative minds, we should have thought that jewels, fabrics, stone, and marble had not been eternally concealed, and that they did not want Art to lift the veil of truth from all eternity to make them manifest. We should have thought that Art did something to produce jewels and fabrics. But what jewels and fabrics, stones and marbles, have to do with truth, nature, and eternity, Mr. Edis does not condescend to inform us. In the next branch of the sentence, we are told that "Truth combined with Art must tend to lift, not a veil, but a *naught*." Truth at one moment was a thing to be lifted, the next moment it was an agent lifting man. After many long and laboured phrases, in which "the material," "the sensual," "the ethereal," "the highest mobility," "art," "science," "striving," "under current of conscientiousness," "truthful endeavour," "sham," and "hypocrisy," are huddled together in unutterable confusion, the writer indulges in another flight of imagination, and tells us "to write down in the pages of the present as we best may, and with the best of our ability, some few lines of the great art-poem that is being ebbing and flowing, from good to bad, through past generations &c. First, Art, a poem towards which all are invited to contribute a few lines, as "they best may, and to the best of their ability;" then this poem, by a sudden transformation, is converted into an ebbing and flowing sea, which is not made to wash the shores of time, but to ebb through past generations. From the past, our imagination, in the twinkling of an eye, is transported to the future, when Art, Truth, veils, Nature, eternity, sham, hypocrisy, science, learning, the sensual, the ethereal, and "all becomes as the baseless fabric of a vision." The next sentence opens with another astonishing revelation. Truth, which was a veil over-spreading eternity, becomes, by a sudden movement of the enhancer's wand, "a great virtue in art." We might go on to show the other lofty flights of imagination which the writer has endeavoured to scale. But we will neither waste our own space, nor trespass on the patience of the reader by so doing. Mr. Edis reminds us of a little girl we once knew, whose mother was a French lady and whose father was a German. The little girl knew a little of French, a little of German, and a little of English, and sometimes when wishing to make herself understood, she would utter a sentence of mongrel English, French, and German, which nobody understood. The little girl, however, had a definite idea of her own, but clothed it in confused words. But Mr. Edis's ideas appear to be as foggy as his language is chaotic. Instead of studying the rules of Lindley Murray, Mr. Edis must have been sitting at the feet of Lord Dundreary. That noble gentleman never uttered two consecutive sentences coherently. He is no sooner in the middle of a sentence than he leaves his way, and like Mr. Edis, soon manages to get into confusion worse confounded. There is a difference, however, between Lord Dundreary and Mr. Edis. Though the one does not attempt to instruct his hearers, he

manages to amuse them, while the other neither interests nor amuses. When Mr. Edis gets into the depths of his subject, he flings about denunciatory epithets in the most unparaphrasing manner. He speaks as if he were the only living high priest of Art. He pours contempt on the last five centuries of artistic effort. We have been told on high authority that "fools rush in where angels fear to tread," and we have living example before us. Mr. Edis comes before the public as a teacher of art architecture, without having studied the simplest rules of composition. He reads a paper which violates all the requirements of grammar. There is contradiction, confusion, and chaos in almost every sentence he utters. His paper is a shapeless mass of unintelligibility. And yet he comes before society as a denouncer of honoured names, as a deliverer from corruption and shallowness, and as the herald of a revolution in architecture. Before he undertook so important a mission, the very least thing he could have done was to have translated the English language with a little more respect. Before he undertook to take the beam from the eye of the public, he should have endeavoured to remove the mote from his own eye. We are now inclined to say, "Physician, heal thyself." Mr. Edis, and other aspiring teachers of architecture, should bear in mind that the art of composition deserves some consideration. The written language of a people is of as much importance as the architecture of a people. The teachers of the "Truthful in Art," should study with something like ordinary care the art of speaking and writing correctly and coherently, or we shall witness other examples of the blind leading the blind. We do not remember an instance of a man attacking so violently the customs of society as Mr. Edis has done in the paper we are now considering. Everything about him is denounced as sham, paste, plaster, hypocrisy, lying, and imposture. So slashing a critic, and so fierce a declaimer should have come into court with cleaner hands. He must polish his periods and point his style if he is effectually to do the work he has undertaken. At all events, being so severe a critic himself, he cannot object to be severely criticised in return.

## Literature.

### THE MAUSOLEUM AT HALICARNASSUS RESTORED.\*

IN the introduction to this admirable work, Mr. Fergusson very justly claims for the renovated Mausoleum of Halicarnassus the attention of all who take an interest in ancient, or who are engaged in the study or practice of modern architecture. All we are engaged in at this time, was that the ancients were inclined to regard it as the very best specimen of architectural art which they possessed. Not only did they rank it as among the seven wonders of the world, but assigned to it that preeminence for the intrinsic beauty of its design, and the mode in which it was ornamented. Perhaps, before proceeding to speak of the volume in a critical sense, it may be well to enter into a brief account of the manner in which reliable materials have been gained for its production, and to render proper tribute to those who collected them. In 1840, Lord Stratford de Redcliffe obtained from the Porte a firman for the removal of certain basililievi, which had been built into the walls of the castle of Budrum, the ancient Halicarnassus. These arrived in England in due course, and were at once admitted to be fragments of the sculpture of the mausoleum, as it had been previously assumed that they were. But their beauty only served further to increase the regret that all traces of the building to which they belonged should have been, as it thus appeared, for ever lost.

While things were in this unsatisfactory position, it was stated that Mr. Charles Newton, formerly an officer of the British Museum, and then Vice-Consul at Mytilene, had not only discovered the true site of the mausoleum on a spot previously indicated by Professor Donaldson, but had also found considerable remains of the long-lost building. Public attention, says Mr. Fergusson, was still further attracted to the subject, when it was presently announced that the British Government had fitted out an expedition to continue the explorations. Mr. Newton at Budrum and its vicinity. Everything seemed to shadow forth a most brilliant success, and from the high character which Mr. Newton bore as a Greek scholar, and a thoroughly educated archaeologist, all the Hellenist public rejoiced that an expedition fitted out on so liberal a scale, and for so desirable an object, had fallen into, what they believed to be, so competent hands. The first published results, continues Mr. Fergusson, were not encouraging. They took the form of papers presented to Parliament, and these were published as a Blue Book in 1858. A

\* The Mausoleum at Halicarnassus Restored in Conformity with the recently discovered Remains. By James Fergusson, Fellow of the Royal Institute of British Architects, Author of the "Handbook of Architecture," &c. &c. London: John Murray, Albemarle Street, 1862.



second series of papers appeared in a similar manner in 1850. Diagrams illustrated the papers, and those are taken exception to by the author of the volume under notice. Finally, the labours of the expedition resolved themselves into the shape of a folio volume of plates, accompanied by a volume of text in octavo by Mr. Newton. These were published in February last, and obtained much appreciative attention.

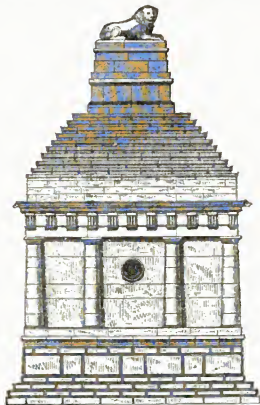
The author of the "Mausoleum of Halicarnassus Restored," is now by no means satisfied that Mr. Newton and his associates have arrived at just conclusions with regard to the nature and characteristics of the ancient Greek structure. He gives critical and analytical reasons for the lack of faith that is in him, and from the subjoined data, deduces materials for the elaborate drawings which ornament his book, and which he says are far nearer to the original designs than those of Mr. Newton. The bases upon which Mr. Fergusson proceeds to raise his superstructure are—

First.—The passages in various ancient authors which describe the appearance of the building, or give its dimensions.

Secondly.—The actual remains of the building discovered in the recent explorations, and the measurement of the ground then obtained.

Thirdly.—The several tombs existing in Asia and Africa, evidently of the same type, and which afford valuable hints for the restoration.

Lastly.—The system of definite proportions in Greek architecture, which is not only most useful in suggesting forms, but also most valuable in rectifying deductions arrived at from other sources.



It must be admitted that the principles here laid down are clear and specific; but it will be for Mr. Newton and his friends to argue as to the conclusions at which Mr. Fergusson arrives.

We cannot undertake to solve so knotty a problem as that involved in the question of "Whose scheme of restoration is most near the truth; Mr. Newton's, or Mr. Fergusson's?" Both gentlemen have evinced considerable ingenuity, and adduced strong evidence on behalf of their views.

In reference to the testimony afforded by ancient tombs as to the style of architecture of the Mausoleum, Mr. Fergusson introduces an illustration in the form of a structure which Mr. Newton discovered at Cnidus, and which he christened the Lion Tomb. That illustration we reproduce here, in order that our readers may observe the peculiar features of the ancient relic, and compare them with those of the Mausoleum of the rival restorers.

Whatever may be the impressions of those who venture upon the task of endeavouring to arrive at truthful deductions by following the leadership of the two gentlemen, as exemplified in their respective works, we can promise them an agreeable, though rather erudite task.

Perhaps, after all, the matter will have to remain in the company of speculative subjects for some time longer. Of the getting up of the work before us we must speak in high praise. We cannot quite agree however with Mr. Fergusson, when he states that it would be difficult to suggest any memorial which should more worthily commemorate the Prince whose loss the nation is still deploring, than a reproduction of the monument which excited so much the admiration of the ancient world, and rendered the grief of Artemisia famous through all succeeding generations.\* We do not think either that the Memorial Commission will quite coincide with Mr. Fergusson on this point.

#### ISCA SILURUM.\*

UNDER the above title has just been published a volume to which we have great pleasure in directing the attention of our readers. The particular district in which Caerleon is situated has long been celebrated for the discovery there of relics and remains of the Romans, and the talented author of "Isca Silurum" has previously published a volume entitled "Delinations of Roman Antiquities at Caerleon," with a supplementary pamphlet describing a Roman building. In fact, sufficient evidence has been adduced by the laborious researches of Mr. Lee, and other zealous antiquarians of Monmouthshire to prove, that for a long series of years the town of Caerleon was the residence of the Second Augustan Legion, which, from its protracted stay in Britain, obtained the name of Britannica. It also appears, from the terms in which the place is mentioned by writers of the Middle Ages, that it had been and was then, a town of considerable note. Caerleon appears to have had several names. In Gale's copy of the "Itinerary of Antoninus" it is termed *ISCA LEOTA AVGVSTA*—evidently, asserts Mr. Lee, a corruption of *Ica Legionis Secunda Augustae*. It was also called in the *Itinerary* list, *Ica Augusta*, and *Ica Silurum*. Hence the first title of the work before us.

Although the author has, with much modesty, designated his beautifully illustrated volume a "Catalogue," it is really worthy a much higher appellation. It not only describes fully, and with singular erudition, the various objects of interest which enrich the Museum of Caerleon, but it contains essays by himself and others upon the various buildings and fortifications which were raised during the Roman occupation, and also many details in reference to the coins which have been found in considerable numbers in the neighbourhood of Caerleon. Into the question of the origin of the name of the town, which is discussed at some length and with much cogent and elegant reasoning by the learned author, it is not necessary for us to go. The tracings of Roman buildings which Mr. Lee indicates, and the particulars of Roman remains which he gives, fall, however, legitimately within our sphere, and with those we shall endeavour to deal. The shape of the ancient fortress of Ica may at present be traced very distinctly, partly by the remains of the actual walls, and partly from an elevated ridge formed from their ruins. Like most other Roman encampments known to have existed in England and Wales, it appears to have been in the form of a square, with the angles rounded, and with an entrance near the middle of each side. That to the south-west led into a road now called the Broadway, and very probably to a ford over the river. It is to be regretted, that for many years before Mr. Lee and his coadjutors entered upon their interesting enquiries, the removal of stone from the ruined buildings, and their employment in the construction of modern edifices, had formed a remunerative occupation for the labourers of the district. The material advantages gained by the latter were undoubtedly at the expense of the scientific hand who have subsequently occupied the field, and many antiquities which would have graced the Museum are thus for ever lost or destroyed.

Those portions of the walls of the fortress of Ica which still remain are of no great height—probably only from ten to twelve feet in the highest part from the ground outside. Many of the stone facings of the walls have disappeared in the way just described; and in these places the walls consist of a very irregular kind of masonry. The mortar, in general, is not mixed with pounded bricks, although this is the case near the corner of the wall, where strength was required. In the locality known as the Broadway, many valuable relics have been recovered, and those placed in the cases of the Museum are described and illustrated in the catalogue.

In 1855, the members of the Antiquarian Society, of which Mr. Lee is secretary, made some extensive excavations at Caerleon, and the results of these are described in the catalogue by Octavius Morgan, Esq., M.P., and president of the Association. From this paper, which is accompanied by excellent lithographic engravings, we extract that portion relating to the Roman baths, which were then brought to light:—"Close adjoining the south-west corner of the wall, including the tessellated pavement discovered in 1777, was a

\* Isca Silurum: or an Illustrated Catalogue of the Museum of Antiquities at Caerleon. By John Edward Lee, F.R.S., &c. &c. Honorary Secretary of the Monmouthshire and Caerleon Antiquarian Association. London: Longman and Co. Paternoster Row.

rough heap or mound indicating the remains of former buildings. It was thought desirable to examine these, and excavation was commenced at the south side of the mound. A wall of very solid construction was discovered, and within this, at the depth of five feet, the men arrived at the door of a hypocaust. Some of the pillars, which were formed of sandstone, had been displaced, and among them there was a quantity of wood-ashes, with masses of slag. The excavation was proceeded with, and there was ultimately uncovered a small block of building, 31 ft. by 34 ft., exhibiting a complete set of Roman baths, perhaps the most perfect exemplification of a private suite of baths attached to a dwelling-house yet brought to light. Although it is not necessary here to go into the general question of Roman baths, it may be stated that the essential apartments of a Roman bath were—the *frigidarium*, with the *piscina*, or cold water tank; the *apodyterium*, or dressing-room, which was slightly warmed; the *tepidarium*, a moderately heated chamber, where the processes of anointing, perfuming, shaving, and other such operations were performed; the *calidarium*, a strongly heated chamber, with a *calida piscina*, or hot-water bath; and lastly the *sudatorium*, raised to a high temperature with a dry heat.\*

All these arrangements were discovered at Caerwent, and it is clear, therefore, that the ancient conquerors of this island made themselves especially comfortable there, and introduced luxuries of which the natives had previously not even dreamt. The resemblance in some of the details of the Turkish baths which at present obtain in the metropolis to those of the ancient Romans is remarkable, and goes to demonstrate the truth of Solomon's words, "There is nothing new under the sun."

Mr. Morgan, in his elaborate and extremely interesting paper, describes very minutely the means and appurtenances with which the Roman baths were supplied, and has caused a model and plans to be made of the particular bath referred to. The model is deposited in the Museum at Caerleon, and the plans are copied on a reduced scale in the "Illustrated Catalogue." "The problem," says the writer, "remains unsolved, that is where the Romans obtained water for the Caerwent baths." The brook is distant, and is dry in summer, and the village is now supplied from wells; and this we must conclude is the source whence it was procured by those who used the baths. To have carried the water by hand through the chambers would have been very inconvenient, and it is possible that there may have been some contrivance in the walls, now destroyed, for its introduction from the outside." Thomas Wakeman, Esq., contributes to the catalogue "Some Notes on the Early History of Caerleon," and in fact gives a chronological résumé of events connected with the ancient town, or city as it once was, from A.D. 692, when the Danes plundered it, to the year 1291.

To the Rev. C. W. King has been entrusted the task of classifying the extraordinary number of coins which have been at various periods discovered in the district, and these are not among the least interesting of the contents of the Museum at Caerleon. Only four gold coins have been found in the vicinity, and those of chief numismatic interest in the list furnished by the reverend gentleman are the silver *Carausius* with the emperor on horseback. The rarity, the type and the workmanship of these coins constitute their value. The metal, too, of which they are composed, is much purer than that of other coins of the period.

It would be vain for us to attempt, within a short space, to enumerate the items of interest which have been collected in the Museum at Caerleon, and of which, in most instances, copious descriptions are furnished in the work under review. The people of Monmouthshire have just ground for pride in the possession of such an invaluable institution, and they are fortunate in having selected a gentleman well qualified for the onerous duty, to edit "Ise Silurum."

It would be unfair towards Mr. Palmer, the lithographic printer of Newport, to omit saying that, in the execution of the fifty-two whole page engravings which ornament the work, he has displayed an ability of which almost all artists would be justly proud. Mr. Lee himself was the artist from whose designs the engravings were made, and this with a view to lessening to the public the cost of the "Illustrated Catalogue." The volume is gracefully inscribed to Octavius Morgan, Esq., M.P., F.R.S., V.P.S.A.; and again we cordially commend it to the notice of antiquarians, archaeologists, architects, and others.

#### EGYPTIAN RELICS.

THE results of Mr. Rhind's explorations in Egypt, and more particularly at Thebes, fully deserve that further consideration which we promised to give it, when on a recent occasion we were compelled to lay aside his book\*, for the time, with but a very brief notice.

Not satisfied with simply describing the results of the excavations, he offers at the same time a general view of Egyptian sepulchral facts. Nor is the value of his observations lessened to any considerable degree that although, from various circumstances, the results are but now given to the world, the researches from which they arose were made some four or five years ago. The sepulchral evidence on early metallurgical practice is a chapter of great value, and one that cannot fail to assist the enquirer in coming to a conclusion on what has hitherto been matter of much dispute. It has been customary, says Mr. Rhind, to suppose that the absence of iron relics among the innumerable spoils from the old tombs of Egypt, was sufficiently accounted for by the natural tendency of that metal to decomposition, especially liable to be hastened by the action of the nitrous soil or sand of the country. It is, however, objected in answer to this, and with truth, that as a general rule, the contents of the tombs were not in contact with the soil, for while the sand might, and did drift up the doorways, and into the outer chambers and shafts, it seldom reached the sepulchral deposit, even in cases where it had long previously been rifled and neglected; besides this, there was an almost total exclusion from air, and damp, all conditions favourable to the preservation of that metal. In carpentry, not only was iron not used, but it appears, from the relics, that no metal of any kind was employed, all framing having been effected either by dovetailing, mortising, or by wooden pins. Those who, following the dictum of Rosellini, insist that steel must have been used in the construction of the tombs, because without them they could not have cut and sculptured granite, forget that, as Mr. Rhind recalls to recollection, the Mexicans performed similar tasks, and even grained emeralds with the highest finish, by the aid of bronze implements. Bollert, in his "Researches in South America," mentions that the Peruvians perforate emeralds without metal of any kind; they use the pointed lead of a wild plantain, with sand and water, and succeed perfectly. There would seem to be no real difficulty in the execution of any of the Egyptian work with which we are acquainted by the aid of bronze implements.

Without the aid of various kinds of metal had not been discovered, and are familiar objects, having been preserved in many museums. But it is not so well known to what degree of excellence the quality of the metal attained. Bronze daggers of the earliest date, rival the elasticity of steel at the present day; carpenter's saws, chisels, fish-hooks, tweezers, and a rarer relic, a needle, in the possession of Mr. Rhind, are all bronze. True, some few objects in iron have at various times been discovered, under conditions which have perhaps too hastily been accepted as proofs of antiquity, but the conclusion must by no means be accepted without further enquiry. For instance, Colonel Vyse found a piece of wrought iron in an inner joint of the stones near the mouth of the stone pyramid of Cheops, the Great Pyramid; but as that structure had long been the subject of constant quarrying and violation, the evidence of antiquity cannot be regarded as conclusive. Then Belzoni found an instrument of the shape of a modern sickle, under a sphinx, at Karnak, but the sphinx, with the rest of the group, were lying in an "irregular and confused manner, as if hidden in a hurry," so that there could be no evidence as to the date of the sickle found under such circumstances, and Belzoni, it must be inferred, found no other article of iron throughout the whole of his researches. Duthausen wrote, "After eighteen years of laborious research, and after having opened no many tombs in Thebes, and in Abydos, I have not met with the most trifling article of ironware of Egyptian origin." It is believed that, of the few objects of iron which have been brought from Egypt at all, nearly the whole of them belong certainly to what is called late time in the archaeology of the Nile Valley, and the author of "Thebes" believes that it is the case, "that there is no recorded personal observation, of the finding of any iron objects, under circumstances, or in connection with other remains, which would satisfactorily prove their having been contemporaneous with remains of the older date in question. For example, Colonel Vyse intimated that the Duke of Northumberland was stated to have brought an iron weapon from Egypt; but the Duke of Northumberland informs me that he knows of no such object." Indeed, it would appear, that in every case in which iron relics have been discovered in Egypt, there is invariably a link wanting in the chain with which it is sought to connect them with early ages.

The fact is, the modern demand for relics, Egyptian as well as others, has produced a certain supply independent of that obtained by actual research; and no doubt to their supply must be ascribed many articles which have come to be looked upon as veritable antiquities. How far this applies to relics from Egypt, may be readily gathered from the ninth chapter of Mr. Rhind's volume, wherein he describes "some characteristics of the mode of dispersion (of relics), whether by traffic or otherwise, which has brought, and is still bringing, so many Egyptian relics into public and private collections."

The spoliation of Egyptian monuments dates from the time when

\* Thebes, its Tombs and their Tenants, Ancient and Present. Including a Record of Excavations in the Necropolis. By A. Henry Rhind, F.R.S., &c.

obelisks were carried away to be re-erected in the imperial cities of Rome and Byzantium; and, again, from the close of the middle ages, when mummy, as a drug, was so favourite a recipe, that dealers embalmed their dead contemporaries to meet the demand which the ransacked tombs could not supply. By the earlier half of the seventeenth century, Kieher had made considerable headway in the mysteries of the hieroglyphics, and about 1655 Thénart, a French traveller in Egypt, describes the Arabs of Sakkarah as continually occupied in digging among the tombs for the purpose of selling the objects which they might discover. The first collection, however, of any importance procured systematically, was formed by the scientific commission which accompanied Napoleon's military expedition in 1798. A few years later the pursuit was in full progress on an extensive scale; and from that time to this it has never ceased. The chief collectors having been the consular representatives of England and France, Mr. Salt and Signor Drovetti, the example of organising a regular search was soon followed by others, and particularly by Belzoni, when, after a rupture with Mr. Salt, for whom he had been acting, he set to work on his own account. "The history of relic-gathering in those days is that of one long imbroglio. There were quarrels and even fights between the working parties of rival collectors. There were difficulties from intrigues and counter-intrigues with corrupt local governors. There were disputes between employers and employed, as to the terms of service. There were misunderstandings in the communications of sellers and Government buyers in Europe on involved questions of price and public duty. There were, even, at least local, sparks of national ill-feeling kindled, chiefly between English and French, in consequence of the right of property in tombs, or such like, assumed to vest from priority of discovery, being sometimes infringed." Later, in 1828, the united French and Tuscan commissions, directed by Champollion and Rosellini, began their labours, the chief object being the investigation of the monuments and the publication of the results. The acquisition of antiquities, however, naturally followed; and the Louvre and the museum at Florence were greatly enriched. In 1842-5, a Prussian expedition, under the direction of Lepsius, made large collections in Egypt for the Berlin Museum. In 1861, and succeeding years, the Louvre again received most valuable additions, by Mr. Mariette's discoveries; and, more recently, the Egyptian Government itself has begun the formation of a collection, under the agency of the same investigator. But, notwithstanding the magnitude of these official operations, they have been far exceeded by the collective efforts of private persons, such as Passalacqua, Caviglia, Gailiard, and others, who "brought together considerable treasures, by engaging, directly or indirectly, in excavations; and most of these have found their way to the museums of Europe. Other collections were formed by European residents in Cairo and Alexandria, whose tastes or opportunities led them to seize the advantage of their position, and secure from the *fellah* diggers, or the closest go-between dealers, any really good relics which then, from a less exhausted source, came more numerously into the local market." Besides these there was the native traffic by the villagers, who, particularly at Gizeh, Sakkarah, and Thebes, were constantly working among the tombs, sometimes on their own account, and sometimes under the guidance of an employer. Datham lived for eighteen years at Thebes, engaged in this manner, so that one would expect to find the whole of the remains thoroughly ransacked. Such is, however, far from being the case, so well as can be judged; but the investigations, so far as they have gone, have been attended with ad destruction to most of the remains, and not only the *fellahs* have not hesitated to use the temples as quarries of the *fellahs* who burn suitable stones into lime; for the scientific expeditions have not been blameless in the matter. Mr. Rhind, while admitting the difficulty of determining where the line is to be drawn, instances the case of the Prussian expedition under Lepsius, who, in the most magnificent tomb in Egypt, that of Sethi I., where corridors, halls, and pillars were in perfect preservation, is stated to have overthrown a decorated column to secure a portion of it, leaving the remainder a scattered relic on the floor. This, and other doings of a similar nature, do not contrast well with the veneration with which these remains of ancient art were regarded by Wilkinson, Hay, and Barton, who about the same time laboriously examined and sketched the figures on the walls by the dim light of wax candles, rather than injure the paintings with the smoke of torches.

But let not the collector of Egyptian antiquities believe too confidently in the genuineness of relics, because they come from Egypt, for the production of spurious relics is carried on systematically, and to a considerable extent. The ordinary *fellahs* shape soft stone into imitations of large scarabs; fasten up scraps of papyrus into the semblance of small untouched rolls; clasp handfuls of their last year's crop, and mix it with stannous dust to give the grain the colour of wheat from the tombs; scratch the royal cartouches on an ordinary vase, and other deceptions, which, however, fail to impose on

the experienced. Certain dealers at Cairo, among whom are Europeans, attempt more than this; they engrave inscriptions accurately copied from a set of viscera vases, on others that may not possess such a feature, and whose value is thereby increased fivefold; then bronze figures of deities of the rarer types are multiplied with unimpaired success; the originals, even, being sent to Italy for the purpose. One Ali Ghanouss, at Thebes, is great in the production of scarabs, which form his chief manufacture. The material he employs is generally that which the ancients themselves also largely employed, a close-grained easily cut limestone, which, after it is graven into shape and lettered, receives a greenish glaze by being baked with brass filings. Working in this way, says Mr. Rhind, some of his copies are singularly good, and as for his examples of the unimportant coarser sorts, which the old Egyptians with little care seem to have produced in the same manner, they are not to be distinguished from antiques.

It seems that, twenty years ago, Ali Ghanouss was engaged in this trade; for a writer on Egyptian subjects notes that he then furnished Ali with appliances to aid his already manifested talent, in the hope of flooding the local market with curiosities, and so saving the monuments from being laid under contribution (?). Since that time, however, the ambition of Ali has led him to more important forgeries, and on the faith of Mr. Rhind's having been several times in his workshop, and having seen the mysteries of his art, he one day presented a sketch of a group of hieroglyphics, neatly drawn in pencil by himself, to beg advice as to his engraving them on a scarabæus. The text, he said, he had copied accurately from a wall of Medinet Habou, but he added, that for a cartouche with a king's name, which the original there contained, he had substituted another which he found to be of uncommon occurrence, with the view of preparing a rarer, and therefore more valuable relic, and he wished particularly to ascertain whether there would be any inconsistency between the adopted name and the inscription. The narrator is not aware if this had been his first attempt in so remarkable a field, but remarks that the result of a few happy shots in this direction it is rather startling to contemplate, if we remember that under some of the kings, and particularly Anuphon III., the practice was much followed, of inscribing large scarabs with important records; the frontiers of his empire had been defined on the authority of four such relics, and an incident so important as the first indication of the introduction of an heretical sun-worship has been founded upon one of them.

We may return to Mr. Rhind's book; but with regard to relics, may repeat with him, that the time is fully come when Egyptian antiquities, of certain classes, must have a further voucher for their authenticity than merely that they have been carried from Egypt.

#### DISTINGUISHED MEN OF SCIENCE.\*

WE are glad to be able to inform our readers, that a large engraving has just been completed by Mr. Walker, of 64 Margaret Street, Cavendish Square, in honour of the men of science who have done so much towards the establishment of our present commercial prosperity. This work, which may well be called historical, represents fifty-one illustrious men, living in the early part of the present century, assembled in the Upper Library of the Royal Institution. The picture is divided into three groups, and comprises authentic portraits of our greatest inventors and discoverers in astronomy, chemistry, engineering machinery, and other departments of science. The central group represents Watt, Boulton, Brunel, Dalton, and Cavendish seated, and surrounded by Smith the geologist, Wollaston, Davy, Maudslay, Benthams, Telford, Murdoch, Renzie, Mylne, Chapman, Jessop, and others. On the right are Crompton, Cartwright, Tennant of Glasgow, Francis Ronalds, and Charles, Earl Stanhope, engaged in conversation; while a little behind stand Bryan Donkin, Troughton the optician, Miller of Dalswinton, Symington, Trevithick, &c. On the remaining group on the left is formed by Herschel, Moseley, and Jenner, surrounded by Bailey, Frodsham, Leslie, Playfair, Dollond, Dr. Thomas Young, Brown the botanist, Davies Gilbert, Sir Joseph Banks, and Captain Kater, celebrated for his pendulum experiments. The grouping of so large a number of figures must have been a difficult task; this has, however, been successfully accomplished by John Gilbert, the designer of the original picture (drawn by J. F. Skell and W. Walker), who, by a skilful combination of various attitudes, has given both grace and ease to the figures represented. The engraving has been executed by William Walker and George Noel, while the greatest care seems to have been taken to secure faithful and true likenesses. The work is rendered complete by a series of well-written memoirs, drawn up by Mr. Walker, jun., to accompany the engraving;

\* Published by Messrs. Walker and Son, 64 Margaret Street, Cavendish Square. The book of Memoirs also to be obtained of Messrs. 167, Bucklebury Street.



necessary connection of ugliness with usefulness in a cottage, more than any other building. Indeed, I believe that the true expression of usefulness will be always beautiful; but then, in the present state of art-work education, we cannot have this expression to the bricklayer and the carpenter, but must look to the refined mind of the true architect to condescend (if it be so considered) to design the building under which the man, who carries out his noblest ideas into form, lives day by day, and imbibes unconscious lessons.

A simple "handbook" of good primitive forms for wood and brick, and stone construction—with the component parts of structures in good proportion, and working drawings and sections of details in each material, such as might be required for their own homes, put into the hands of the apprentices of the present generation, might in time work a great and glorious revolution in British art. I wish the world would commend itself to some one of the distinguished professional members of our architectural museum who professes especially to take the art-work among its care. The idea may seem too trivial and simple; but I own, that among such more ambitious projects for raising the character of our national architecture, I can myself see no one that has better promise of ultimate success.

#### FOXHILL, NEAR LEEDS.

THIS house, of which we give an engraving on the opposite page, is situated at Westwood, a few miles from Leeds, and is built on the brow of a thickly-wooded bank, sloping rapidly down to a small streamlet, the Adel Beck (*beck* being the Yorkshire name for a rivulet). It is built of sandstone, partly quarried on the site and partly obtained from the Westwood quarries, which is close at hand. From the flat roof of the tower, over the entrance, very extensive views can be obtained on all sides, as there is very little, if any, higher ground for many miles round. The view shows the south-west and south-east fronts. The library window and large bow of drawing-room are to the south-west; the smaller bow of the drawing-room, that of the dining-room, and the window of the morning-room between them, are to the south-east. The receding wing contains nursery accommodation on the first floor; kitchen, larder, &c. (north-west); and butler's pantry, servants' hall, &c. (to south-east), on ground floor; and wash-house, laundry, wine cellar, &c., on basement story, which is entirely above ground on south-east side.

The house is entered by an open porch in the tower, hall, with cloak-room and saloon, from which the four principal rooms are entered, and from which the principal staircase ascends. The servants' rooms are on the top story of the main building. The glass porch, over the south-east of the dining-room window, is to the garden entrance; and the conservatory stands immediately in front, at the end of the terrace flower garden.

The contractors are,—Whitley, mason; Winn and Pawson, joiners; Watson, Slater; Webster, plumber and glazier; Singleton and Tennant, smiths; Branton, plasterer; Wood, painter.

#### ON THE FORMATION OF A NATIONAL MUSEUM OF ARCHITECTURE, VIEWED IN CONNECTION WITH ITS BEARINGS UPON MEDIEVAL ART.

ON Tuesday evening, Mr. GEORGE GILBERT SCOTT, R.A., F.S.A., delivered a Lecture in the Theatre of the South Kensington Museum, before the members and friends of the Architectural Museum. "On the Formation of a National Museum of Architecture, as viewed especially in its connection with the Medieval Styles." The chair was occupied by the President of the Architectural Museum, Mr. A. J. R. BARRERSBORN Horn, who briefly introduced the lecturer.

Mr. SCOTT said:—Having been somewhat actively concerned in the first establishment of the Architectural Museum, and the collection there made having been either temporarily or permanently deposited in the hands of a government department, who are supposed to have in contemplation the formation of a National Museum of Architecture, I have thought it not out of place to offer some suggestions as to what such a National Museum ought to be; but, in doing so, to direct my attention more particularly to that part of it in which I feel most interest—that which would illustrate the architecture and the arts of the middle ages.

A museum may be defined as a depository in which objects, illustrative of science and art, are collected and exhibited for purposes of instruction and study.

Its great uses are to facilitate the studies of those who cultivate the arts and sciences which they illustrate, and to excite interest in them in the minds of others. They have also a secondary use, as being places where objects of interest, which would otherwise be likely to be lost or dissipated, or to perish from decay or other causes, may be cared for and permanently preserved.

When the museum is public or national, it performs, or should perform, these duties, on a grand scale, and for the use and benefit of the public.

Limiting our consideration to a museum of art, I would say that its directors ought to devote their energies primarily to collecting such objects as are worthy of the study to the practical student of art, and as would tend to form the public taste upon a true and healthful standard. Secondly, to the illustration of the history of art in its various schools and periods; and

thirdly, to the conservation of such movable specimens as would otherwise be in danger of being lost or destroyed, provided such works are of actual merit or of value as bearing upon art-history.

Consequently, again, our attention upon architecture and its subsidiary arts, let us endeavour to apply to it the general rules above stated.

An architectural museum should illustrate the history of architecture, and it is hard to conceive of anything more interesting than a collection which would really and honestly perform so noble a duty.

The history of architecture is the history of the world; it is the history of the changing power and dominion of races and nations; it is the history of human thought, and of the growth, the fluctuations, the decay, and the revival of human civilisation; and worthy to illustrate such a subject would be indeed a noble undertaking! This should not, however, be the primary aim. The great and vital object to be aimed at is the actual promotion of art amongst ourselves, and it is to this object that the best energies of those engaged in such a work should be directed. In the first place, it is pretty obvious that, while illustrating in their degree the various classes of architecture, such a museum must be mainly devoted to the two great classes of architecture which are actually practised amongst ourselves, and which are familiarly, though somewhat unmeaningly known as "Classic" and "Gothic."

It may be asked why these two classes of art should be selected from among the multitude which have prevailed in different ages and countries. Is it more from the greater accident of their accident to be practised by us at the present day? By no means. The reasons are founded both upon history and upon intrinsic merit. Classic architecture founds its historic claims, firstly, upon the great fact that it originated among those nations of antiquity whose glorious privilege it was to unite in one main channel the several streams of the civilisation of the ancient world, to collect and concentrate all that was worthy of perpetuation in its previous course, and to bring it, with its arts, sciences, and literature, to the highest perfection which they attained; and, secondarily, upon the fact, not much less important, that what remained of the civilisation of these favoured nations of antiquity supplied the germ from which a second civilisation sprang—that of which we now enjoy the blessings.

Gothic architecture, on the other hand, founds its historical claims on the fact that it is the indigenous architecture of that family of nations to whose custody that new civilisation was committed, and that it belongs to ourselves as a leading member of that family; and that, though it has for some centuries been superseded by the revived architecture of the ancient world, it is now in its own turn revived by those nations among whom it originated, and is familiarly used by them side by side and on equal terms with that which had for so long superseded it.

I will not dwell upon the former of these branches of art; but will now concentrate my attention upon that in which I personally feel the greatest interest, and the illustration of which, through the medium of a national museum, is the subject of my present paper.

I will first state—what often seems to be lost sight of—that it was not the historical claims of this style of architecture, strong though they are, which brought about its revival. Its opponents often seem to suppose the cause of this, and to think that, by directing their arguments against those claims, they shall undermine a movement which, gloriously supported though it is by historical claims and associations, originated wholly in an appreciation of the merits and beauties of the architecture, and its suitability to our wants. On this subject, however, I will not dwell further than to say that if you do not feel the beauties and perceive the intrinsic merits of this wonderful style of architecture, I fear it would be hopeless for me to attempt to convince you of them. If you wish to know my views on this point in detail, I will take the liberty of referring you to the first and the last of my lectures at the Royal Academy. They are reported in the *Builder* and *Building News*, in March and April 1867, and in February 1860.

Now, let us digress for a short time to consider what are the means by which a practical art like architecture is to be most successfully learned and its advancement best promoted.

Architecture, it should never be forgotten, differs from the sister arts of sculpture and painting in this great and most important quality; that its productions are not the actual handiwork of the leading artist himself, but that it unites under its banner not only its two noble sister arts themselves, but also an almost innumerable train of subordinate arts, each of which contributes its quota towards the perfection of the architect's work, and vies with others in rendering it noble and magnificent. When we speak, therefore, of architectural instruction, we mean, not only that of the architect himself, but of all the artists who work under his banner.

It is a general fact in England, at the present day, that those who follow a practical art, take too low a view of its artistic value, distinguished from its practical element. Thus, with our manufacturers, the workshop is often excellent; the taste very rarely so. Our artisans are often *giants* in mechanical skill, but *pigmies* in art.

The same has been the case with the arts subsidiary to architecture; and, though a great revival has taken place, those who have advanced the most best know how great is still the need of reformation.

This reformation must, however, begin at the fountain-head. The same precedence of the mechanical over the artistic which has obtained amongst our manufacturing and our architectural workmen, has existed also amongst architects themselves. We do not wish to be less practical—far from it!—but to be more artistic. And, if we aim at raising the architecture of our day as an art, we must begin by giving a more distinctly artistic tone to the education of our architects. The absence of any recognised and





POWELL, 25th LITH.





defined facility for obtaining the class of instruction required to supply this very general need, one of the great hindrances to the advancement of architecture. The Institute of British Architects have been considering for a long time past the organising of a severe examination of young architects; but they have never, to my knowledge, taken any step to aid their education. The junior institution (the Architectural Association) have, in some degree, taken the matter up, and have established classes for mutual improvement—a step worthy of all praise, and the assurance of which merits the serious attention of every lover of architecture.

If there are present any students of architecture, let me earnestly and seriously press this subject upon their attention. In an architect's office you can learn the more mechanical and business-like parts of your art; and you there, and there alone, learn the application of such artistic skill as you may possess to actual and practical work; but that *artistic skill* itself must be acquired elsewhere, and by your own individual exertions. I wish it, however, to be distinctly understood that the artistic skill I am speaking of relates to *applied, not pictorial, art*; that which will make your buildings noble works of art, as distinguished from that which only enables you to make pleasant pictures of them. This last-named class of art is not to be despised; it will further your interests. If you are also an artist in the higher and more practical sense, it will give you an additional impetus to your public favour; while if you fail in skill of this higher class, it will do great harm by obtaining favour for your bad designs.

When real architectural art was highest this pictorial power was not much cultivated. It is not infant architectural skill, but only the means of promoting the adoption of the approval of your designs, whether good or bad. As an aid to design, it is of great use, and by your own individual exertions, I trust, it will give you an advantage over you; but always remember that, like eloquence, it is a mighty engine of good or evil, according as that which it commends to popular favour is noble or vile. The artistic power, however, which I am urging you to cultivate is the power of making noble designs, and of clothing them, when circumstances permit, with noble decorations, whether in the form of architectural carving, sculpture, painting, or other decorative art. The first part—the power of actual architectural design—cannot be acquired without the most careful, determined, and continued study of existing works, accompanied by a constant, though not a self-confident, criticism of their merits and their faults. It is ridiculous to suppose that such an art as architecture is to be learned without the most careful study of its existing productions; or that originality is likely to be developed upon a basis of ignorance, and it is equally unlikely that excellence will be attained solely through the medium of knowledge, without the most jealous and careful training of the eye to the most delicate and scrupulous perception of the right and the wrong in form and proportion. The want of this is the most crying sin in modern architecture, especially, I fear, in this country. Continually is the more cultivated eye offended by discords, which in music would be the very death of an air. I know not how to advise you on this point. This delicacy of perception is in some degree intuitive, but that it is not wholly so is proved by the fact that the works of some periods are nearly all harmonious, while at other periods this harmony seems only occasionally to have been attained. The only rule I can suggest is the *jealous cultivation of the eye*. As the greatest of moralists has said, "Keep thy heart with all diligence, for out of it are the issues of life," so may one say to the architect, "Keep thine eye with all diligence, for out of it are the issues of art." Never allow your eye to get accustomed to or to condone errors of proportion, even in works which in other respects you revere for the noble art which clothes them, and much less allow of any deliberate error in your own designs. To avoid these themselves, sketch your designs over and over again, so matter how slightly and roughly, rejecting rigorously everything against which the eye rebels, and refusing to permit a proportion which it has once condemned to remain even for a minute before you, for ocular perception is most delicate, and its instincts may be blunted by dwelling even for a few seconds upon what its first impression saw to be wrong. Never clothe a form with detail or with pleasant drawing till the proportions are thoroughly understood and rigorously correct, and then, I fear, that you have, in doing too long or too indulgently upon what you have sketched, prejudiced your eye in its favour, put it away and attend to something else, or take the opinion of some unprejudiced person in whose correctness of eye you have confidence; for first impressions of another will often correct your own.

As to obtaining a knowledge of architecture, I cannot too often or too strongly urge careful sketching from first-rate examples. The student of classic architecture is under a disadvantage, as its original and best examples are in other lands; but with those who pursue the other great branch of architectural art, the case is very different; for though in most parts of Europe he will find constant and ever-varying objects of study, he can never go far from home without finding among the monuments of our own country productions equally deserving and equally instructive. To the student, then, of Gothic architecture I would concentrate my advice on this point in one word—"SKETCH." And, if any one advises the neglect of this, I assure you that he stands *pro facto* self-condemned as a false teacher. I want you, however, to add to this a great deal more. I want you to obtain distinct and precise notions of the art in all its bearings upon architecture. I want to see upon you to study figures, and figures in architectural drawing, the drawing of foliage, whether natural or architectural, the combination of figures and animals with foliage, the designing of colored decoration in all its branches, and of every other decorative art which

bears upon architecture. I want to urge upon you the necessity for the systematic learning of all these kinds of drawing, and the obtaining of a perfect mastery of them; and not only this, but that you should learn, in some degree at least, the actual practice of these arts. Human life is not long enough to do the latter thoroughly; but now, in the days of your youth, you can do to a certain extent, even at the sacrifice of a few frivolous amusements. You have embarked on a noble art. Make its cultivation take of all inferior pursuits. To effect this, I am disposed to think that consolidation is necessary. A society of students might be formed, and aided by others, for obtaining the best instructors in all these branches of art, which each student singly would find impossible. I earnestly commend this to your united consideration. And, above all, do it at once, or your own individual share in the coming reform will be lost.

I will only add one piece of advice to young architects. *Do not make Orontes a substitute for Art.*

There is at all times an ever-varying set of opinions about as to matters of art,—and those who ride on the wave of the last received opinion of their party—be it good or bad—are apt to be viewed by themselves and their companions as oscillating, quite irrespective of their own attainments or skill. "What I would, then, say is this; hold what opinions you like, so long as you make yourselves artists, and you will come right in the end; but hold what opinions you like, if you neglect to make yourselves artists, you will never be good for much.

I will add another suggestion. Never let your appreciation of the demerits of the present age in matters of art lead you into a sneering, supercilious, and contemptuous way of speaking and thinking of what you are acquainted with on outward grounds, and especially of what you are *yourself* exceptions to the censure you pass upon others. We continually hear persons speaking in a discontented and hopeless tone of contempt of what others are doing, without exhibiting any very strong signs of exertion to acquire real powers of art themselves. I urge you to reverse this habit, and learn to think kindly and favourably of the efforts of others, while you keep up a vigorous *competition* over yourself. And make all you can of others, whether of success or of failure, act as only as many incentives to the determined pressing forward of your own artistic training.

What I have urged respecting the artistic education of the architect himself, applies almost precisely to that of the architectural art-workman. He has an easier task, because his efforts are concentrated upon a single point, while the other hand, he is offered severely from his very limited facilities of obtaining instruction, and he is called upon to do a work worthy of his study. The aim, however, is precisely the same; and I would say to the art-workman as to the architectural student, make yourself really an artist; jealously cultivate a delicate accuracy of eye; diligently study the finest productions of your art in its best days, and add to all this (or I would rather say, unite with it, and thoroughly mix up with and knead into its very substance) the constant and laborious study of the productions of nature, whether animal or vegetable.

I think with art-workman as with architectural students the greatest hope of obtaining a real artistic training would be in combination for self-improvement—a clubbing together to obtain instruction in drawing, &c. I would especially urge the cultivation of figure and animal drawing. In this our careers, &c., are the most deficient, and to this they call for the best attention; not so much with the direct object of becoming figure sculptors, as to facilitate the free introduction of animal life in combination with architectural carving, a power which our best carvers very rarely possess, but which is absolutely necessary to the perfecting of their art.

Now, with the actual student, as distinguished from those who have made a certain degree of proficiency, there can be no doubt that the best training is frequent and careful copying (whether by drawing, modelling, or carving) from models of unalloyed merit. Every art is acquired in the first instance by submitting implicitly to routine; no one would believe that the mechanical drilling which a soldier has to go through, would do much to teach him actual fighting, yet it is found practically that success absolutely depends upon it, and so will the student soon know this, that as Gibson, I think, remarks, "they called the army by a name not derived from their ultimate duty of fighting, but from their preparatory duty of exercising. No one, again, would believe that the dumb show called 'position drill' would make a man a good rifle shot; and a thousand parallel cases could be instanced to show how skill in any pursuit is to be attained by submitting, for a time, to what may be accounted as *drudgery*. Art is not an exception to this rule, and it will never be acquired by the student (and perhaps others, if they have not already passed through the ordeal) to put themselves through a diligent course of the most careful drawing or modelling from the best examples they can find, before they venture upon a free line of study. By this they will attain a correct appreciation of truthfulness of line, and of the importance of precision of detail, and they will find that it will greatly facilitate their future and less mechanical studies, and in the end promote, rather than fetter, originality.

It may appear that I have been departing widely from the subject of my paper; the very contrary is the case. It is useless to treat of what a museum of architecture should be without first considering its necessity and the uses it is to serve.

I will only add, I have said respecting the art education of architects and architectural workmen will make this pretty clear.

Architectural students may it be true, visit the actual buildings which contain the objects of their study, they must do so indeed, and they do so; but, even with them, it is impossible to do this so often and so system-



ings of the machinery; designs for drawbridges; in short, specimens of almost all the useful and ornamental arts of the day may be found in those volumes. The names attached to the drawings, which in most cases, and perhaps in all, are autographs, are indeed deserving of deep respect, second only to those of the great men of the age which immediately preceded them, as Da Vinci, Raffaele, and Michael Angelo. We find the names of works of Julio Romano, Doménichino, Ribbante, San Gallo, Piero della Verria, Bartoli, Borromini, Olli, the Fontana, &c. And one precious volume is filled with original sketches, chiefly from Venice, by the famous Canaletti. When we consider the versatility of talent displayed by the Italian architects, who did not disdain small things in art because they were capable of great things, nor the useful because they were masters of the ornamental, it is not to be wondered at they held the high rank in society they did. The Pope, the Emperor, the Grand Duke, all welcomed the architect as not only a lofty, but a useful spirit in the state, and he tried in Courts the equal of the leading minds of the day in other intellectual pursuits—the diplomatist, the jurist, or the great inquirers into the physical or metaphysical worlds. Whether the system urged upon us by some, in the present day, of despising science and learning; and narrowing the mind to one branch alone, or rather to a sub-branch of the branch of architecture, tends to raise the profession in the eyes of the public, or is now or has already been raised in America in some degree, it is not our purpose to inquire. By gracious permission of the Queen we have before us four volumes out of the collection at Windsor, on which I beg to venture a few remarks. They are not specimens of the most finished and most highly-coloured drawings there, but exhibit rather the architect in his studio, dashing off with a common pen the ideas of his master, and placed upon the wall, that had probably never been meant to meet the public eye. The most of them, however, are evidently to scale, and the localities and the subjects, and the purpose-like manner in which they are executed, will, I am sure, be worthy our attention. The first to which I shall direct your attention has a melancholy interest attached to it; for it was the first discovered by the late Prince Consort. It is one of the earliest, and one of those familiar to every ear, though in foreign biographies it holds a prominent place. It may be convenient, however, to state a few facts as to his character before proceeding to the examination of the contents of the two volumes, which I will endeavour to do as briefly as possible. Musio Oddi, whose name stands conspicuous on the title-page, was born at Urbino, in 1569. His father was an officer in the troops of Francesco di Medici. At an early period he gave evidence of scientific talent, and was placed under the tuition of the celebrated Barocci, from whom he learned drawing. This painter was also a native of Urbino, and one of the few that opposed the so-called eclectic school of the day, preferring rather that of Correggio, Raffaele, and their predecessors. He soon discovered in the lad a talent for mathematics and the constructive arts, and advised him to give them his chief attention. His biographer has not been able to find any progress in these studies, when, like our late valued and lamented fellow member, the celebrated Cavaliere Canina, he entered the army, and became Chef d'Artillerie. He seems to have distinguished himself so much, and to have won the approbation of the Grand Duke to such a degree, as to be admitted member of his Privy Council, when suddenly a storm broke over his head. He was charged by the Grand Duke with having betrayed the secrets of the Privy Council, and that to his wife the Grand Duchess, and he was immediately consigned to the dungeons of Pesaro. The charge seems strange; and there are hints that, after all, Italian jealousy was at the bottom of the accusation. However this may be, it seems clear that the unhappy young man was subjected to a strict and cruel confinement for nine long years. He was deprived of the use of pen, ink, and paper; but his biographers say he got over these defects by making pens out of pieces of reed, and ink from charcoal and the soot of the chimney, and that he fabricated a sort of size from the relics of his food, with which he prepared the commonest sort of paper, so that they could take the ink. Specimens of these drawings are still preserved at Urbino, and shown as curiosities; and I have very little doubt that some of the rougher sketches now on the table before us are done in the same manner. In the pursuit of art, and in the study of mathematics, the time passed away, and he was at length liberated, but on condition of his leaving his native place for ever. He proceeded at once to Milan, where he was elected to the Professorial Chair of Mathematics, and probably practised also as an architect; for we have in the volume before us some designs which appear to have been carried out in the Cathedral there. From thence we read that he was invited to Lucca, to fortify that city, in the year 1616, and that the struggle was going on for the vacant Dukedom of Mantua, and Italy was ravaged alternately by the arms of France and Spain. The drawings of those fortifications are before us; and we are told that they gave such satisfaction to the authorities that he was presented with a medal of honour. From the plans of sieges and other military operations, it is probable he was present at some of the battles which ended in the capture of Mantua. He seems, however, to have resided at Lucca; for his biographers state he was invited from thence by Cardinal Trivulzio to return to Milan. This invitation he declined, preferring to proceed to Loreto, where he seems to have designed the sacristy for the famous church there, and to have executed works at Ancona. Shortly afterwards he seems to have had permission to return to his native town, Urbino, where he died at the age of 70 years. His writings are still extant, and they are nearly unexplored. One is a description and the direction for the use of an instrument which he calls the polymetal compass, a delineation of which it is supposed is in one of the volumes before us. On the title to the book is neatly written "Original

Drawings from the hand of Musio Oddi, of Urbino." It commences with a large number of sketches in a sort of ink and in red chalk. Some of these are very neatly finished, others are of the roughest description—in fact nothing but scratches, and as if done by a very imperfect light. They are in mere scraps of paper, and the probability is a good portion of them were done in the solitude of his dungeon, and with the imperfect materials I have described. Among them is a drawing of a curious instrument, composed of two limbs connected together by a graduated, circular arc, which seems to be fixed, and carrying another one graduated in like manner, which seems to be movable. It is furnished with a plummet, and seems intended for taking angles or levels, and may be the polymetal compass alluded to by his biographers. (We shall give the remainder of Mr. Aspitale's address in our next.)

## CHURCH, CHAPEL, SCHOOL, AND OTHER BUILDINGS.

### CHURCHES.

**LAMBETH.**—In the Kennington road, Lambeth, contiguous to Wulst 11 place, a handsome district church is now being erected, and will shortly be completed. It is in the early decorated style, from the design of Mr. H. E. Coe, the architect, and will be dedicated to St. Philip. The chief material is Kentish rag stone, laid in the random style, which, together with the Bath stone dressings and the lofty spire, 140 feet high, with which it will be adorned, will, doubtless, produce a most picturesque effect. The entire details are being carried out by Messrs. Jackson and Shaw, of Earl street, Westminster, the builders. The whole cost of the building is to be not more than £10,000, and it provides 1,000 seats. It is intended to erect a parsonage, and a friend has offered £5,000 on condition that the latter, as well as the church, shall be built and an endowment of £200 a-year provided before Christmas, 1862.

**OXFORD.**—A petition for a faculty to restore Oundle church has failed; another effort, however, is to be made.

**HYTHE.**—The new window, of the Thomas Quested Finnis, Esq., has been placed in the east end of the chancel of the parish church, Hythe. The window consists of one centre light, 35 ft. by 4 ft. 6 in., and two side lights, 33 ft. by 3 ft. 6 in. each. In the centre are three medallions—the crucifixion, the resurrection, and the ascension—with geometrical work. In each of the side lights also is a medallion—one, the raising of Lazarus; the other, the raising of the daughter of Jairus—with geometrical work. Running the length of the window is the inscription, on glass:—This window was presented by Alderman Thomas Quested Finnis, of this town, and Lord Mayor of London, to the memory of Ann Lydia, who departed this life on the 7th Nov., 1861." The work has been beautifully finished by Messrs. Chater and Son, of St. Dunstan's, Tower Street, London.

**HOUGHMONT.**—The parish church, which has been lately restored, was reorganised by the Hon. the Earl of Shaftesbury, who has had the new building is very lofty, and, with the large windows, extremely well lighted. A new entrance gate from the road on the west has been erected, and a broad path, paved, formed to the west door in the tower. The ground around the church has been lowered, and new paths formed. Mr. Huggall was the architect, and Mr. Padley, the contractor.

**STOCKPORT ELDER.**—A memorial window to the late Earl of Cadwiler, by Mr. A. O'Connor, has been placed in the church of Stockport Elder, by the tenant-farmers and other inhabitants of the six parishes comprising his Lordship's estate in that part of Denbeshire.

**ST. BARTHOLOMEW'S NEW CHURCH, NEAR SOUTHERN.**—In August last St. Bartholomew's Church was commenced, and it is now nearly completed, the portion built being the nave, chancel, and vestry, the cost of which, with the western gallery, is £2,500. The accommodation at present afforded is for 700 persons. There are three entrances to the church, the principal one being at the west-end, having a large porch, the others being on the north and south sides. On the south side of the building, under the chancel-arch, is a handsome octagonal pulpit upon standing columns with foliated caps. The chancel-arch is supported on two handsomely carved corbels, the spaces are of wood, and are of the design of the architect, and through the pier. Fixed against the east wall of the chancel is an ornamental stone screen of excellent workmanship, designed to contain the Commandments, &c. The east window is a beautiful specimen of stained glass, designed and manufactured by Messrs. Chance, Brothers, of Birmingham. The lower portion of this window, which has been presented and bears the memory of the late John Warden, Esq., M.P., is composed of geometrical glass, artistically designed, and the immediate superintendence of Mr. Goodwin. It is proposed to consecrate the church the latter end of this month, which ceremony will be performed by the Lord Bishop of the diocese.

**ARDABRIDGE, IRELAND.**—A new church, dedicated to St. John the Evangelist, has recently been consecrated at Ardabridge, Ireland.

**LEIGH CHURCH.**—A fine window in stained glass has just been placed at the east end of the church, in memory of the late Mr. Buckland and his wife. It is the gift of their children, he having been several years rector of this parish. It consists of three main bays, surmounted by a bold compartment of six points, with other tracery. The design consists of the vine,

distributed over the whole surface of the window, so ingeniously interwoven as to form in its several interlacings the various panels which contain the subjects. The main panels in the chief bay contain the "Annunciation," "Crucifixion," and "Noli me tangere." The chief tracery light has the "Ascension of our Lord," the minor cases the "Psalms in her party," and the "Holy Lamb," &c.; the other panels have angels, monograms, and other several subjects, mostly referring to the passion of our Lord; all these are enclosed by various and beautiful borderings. At the bottom of all runs the following inscription, "Memorial to William Buckland, D.D., Dean of Westminster, died Aug. 14th, 1860, and Mary, his wife, died Nov. 30th, 1867. By their children." Messrs. Warrington and Sons, of London, are the artists.

**GLASGOW CATHEDRAL—COMPLETION OF THE ROYAL WINDOW.**—The long-expected painted glass for the east window is now erected. The splayed sills have been replaced, and the window frame is restored to its original form. The new window contains figures of the Evangelists—Matthew, Mark, Luke, and John—very noble figures, whose inspired and hopeful look is intended to contrast with the stern prophets of the transept window; the contrast between the old and new dispensations is thus implied, so far as it may be possible by the power of art. The upper part of the window is filled with a diaper of singular elegance, both of form and colour; we do not remember either in modern or old glass seeing a finer diaper or a border of greater beauty. The display of heraldry is magnificent—in the first place, to the left of the centre and of the spectator, but to the right in the window, are placed the arms of the Sovereign as Queen of the United Kingdom; to the right of the centre the royal arms of Scotland; close to the arms of Her Majesty are those of the lamented Prince Consort; whilst the arms of the heir to the throne are placed on the other side, surmounted by the badge of Wales, instead of the usual royal crest. The feathers make an admirable pendant to the crest of the Prince Consort. The entire array of royal arms, admirably designed and executed, has a rich and harmonious effect. There is no special inscription of dedication; but the funds were provided by Parliament, and it has been the wish of the Government to erect a window in entire harmony with those of private subscribers, and regulated in its design and execution, as well as in its subject, by the same conditions. The figures of the Evangelists in this fine work of art were designed by Johann von Schrandolph, historical painter, Professor of the Royal Academy of Munich, Knight of the Order of St. Merit of the Crown of Bavaria, member of the Bavarian Order of Maximilian of Art and Science, and of the Order of St. Michael of Prussia. The ornament is based on the designs of Maximilian Ammiller, architect, Knight of the Order of St. Michael of Prussia, of the Order of the Red Eagle of the third class, and of the Order of St. Louis IX. The Chevalier Ammiller is also an honorary member of the Royal Academy, Munich, and inspector of the Royal Establishment of Glass Painting.

**ST. MARTIN'S CHURCH, LIVERPOOL.**—About two years ago the intersection tower of this fine church was found to be in such a ruinous condition that the vicar and churchwardens resolved to have it taken down. It has now nearly been rebuilt, together with the north and south transepts. The new tower, which is 26 ft. square, is supported on four handsome arches 16 ft. wide by 32 ft. high in the clear (the old arches were about 12 ft. wide by 16 ft. high), which greatly improves the interior effect of the church. It is proposed to surmount the new tower with a lofty brass spire, but at present the committee have only funds sufficient to carry up the tower to the height of 108 ft. The works have been carried out by Messrs. Dove of Islington, from the designs and under the superintendence of Mr. Raphael Brandon, the architect, who directed the former restorations of this important and interesting church.

**STAINED GLASS AT ST. PATRICK'S CATHEDRAL.**—The *Dublin Builder* says: Messrs. Barry and Co. have been commissioned to fill in with stained glass the great south transept triplet window of this cathedral. The subject selected by Mr. Guinness, the donor, is "The Ascension of our Lord." A full-length figure of the Redeemer will occupy the upper part of the centre light, the Apostles, in groups, the lower portions of the three lights; and those prophets who especially prophesied the coming of our Saviour are represented as seated in glory in the upper parts of the two side lights, contemplating the fulfilment of their prophecies.

**ST. GREGORY'S CHURCH, SEDBURY.**—This church is to be restored and re-seated.

#### CHAPELS.

**STOCKWELL.**—On Wednesday week the foundation stone of a new chapel in the Stradley Road, Stockwell, was laid with the usual ceremony by J. Cordery, Esq. The site is most eligible, the purchase of which, together with the cost of the building, will be about £4,000, of which only about £2,500 has already been subscribed. The style of the edifice externally is Ionic, resembling Mr. Spurgeon's Tabernacle. The materials in front, including the pillars, are of stone. The architect is W. Jenkins, Esq., and the details are being executed by Messrs. Chinnock Brothers, of Wendworth Road. When completed there will be vast accommodation for 1,100 persons.

**METHODIST CHAPELS, SCHOOLS, &c.**—New schools, costing £1,500, have been opened in connexion with the new chapel in Mornington Road, Southampton. The foundation stones of new chapels have been laid at Merthyr Tydfil, Middleborough, and Market Rasen; and of new schools at Exeter and Whitchurch, Salop; and new day schools have been opened at Exeter. The Middleborough chapel is to cost £1,400, and to seat 200 persons with ease. It will be the second Wesleyan Chapel in the town. The Exeter

schools will cost £1,200, and accommodate from 350 to 400 children. The Whitchurch schools will cost £1,130. The Crews schools have cost £1,316.

**CHAPEL ASH, WOLVERHAMPTON.**—Mr. Billake's plans have been accepted for the Wesleyan chapel about to be erected here. The design is for a building, chiefly of stone, in the Geometric style, with a tower and spire 100 feet high. There is a large window in front; and the lower part of the wall is broken by an arcade, one compartment of which contains a window lighting the vestibule. On each side there is a clerestory, supported in the interior by iron columns. Bricks are employed for some of the arches and bands; blue stone for the shafts of the doorway and arcade; and Bath stone for the cornice of the tower, window dressings, &c. The chapel is 81 feet long and 50 feet wide; and there are galleries at the end and on each side. It is to seat 900 people. There are three vestries at the back, with a yard, &c. The total cost of the building will exceed £3,000.

#### BUILDINGS.

**REDCLIFFE.**—An infirmary is about to be erected at Redcliffe, Oxfordshire. The mortuary is in course of removal; the foundations of the main buildings are begun. The shell of the building is likely to be completed this year, and then no doubt need be entertained that means for completing the interior will be found. The magnificent gift of a chapel, by Mr. Combe, waits only for the selection of a site.

**TODMORDEN.**—A new mansion hall has been opened at Todmorden. The building is a very handsome structure, in the Italian style of architecture, and has cost about £2,000.

**NEW THEATRE, EDINBURGH.**—Mr. Howard is busy in arranging for the building of his new Theatre in Nicholson Street, Edinburgh, on the ground on which the present circus now stands. It is calculated to contain from two to three thousand people.

**KILMARNAK GAOI.**—The female side of Kilmarnack Gaoi is to be remodelled and put on the separate system, according to the designs of Mr. McCurdy, which have just received the approval of the Lord-Lieutenant. The new wing recently added to this goal by the same architect is perhaps the largest in Europe, and forms a new feature in prison architecture.

**RACQUET COURT, TRINITY COLLEGE.**—The long-talked-of racquet court is at length to be erected in the park of Trinity College, which announcement will no doubt be hailed with pleasure by the majority of the students of Alma Mater. It has been a great source of surprise that such an institution should have so long remained without this great essential to the physical development of the rising generation, who may there pursue their studies. Racquet playing must, in a great degree, tend to counteract the injurious effects of the sedentary and confined life to which the hard-working "honorarium" must of necessity submit. For this reason, alone—a nothing of having "within the walls" those means of recreation which may keep many a youth from the allurements of town-life—we consider this a step in the right direction. Mr. McCurdy is the architect; Mr. J. Nolan, contractor.—*Dublin Builder.*

**COLUMBA COLLEGE.**—A new dormitory (early English) is to be erected at Columba College, Glasgow, by Mr. McCurdy, architect.

**GITT OR A TOWN HALL TO DALRYMPH.**—On the 13th inst., a new town-hall and reading room, erected by Willwood Herries Maxwell, Esq., of Munches, was formally opened.

**NEW PUBLIC HALL, DORSET.**—A gentleman of this town has projected a new hall, and his agent has exhibited his plans to the public. It is proposed that the large hall shall be capable of holding about a thousand persons.

By the kind permission of the Dean of Westminster, and with the concurrence of Mr. G. Scott, arrangements have been made for a visit of the members of the Architectural Association to Westminster Abbey, on Saturday, the 28th instant. A price is offered for the best written account of this visit.

#### GENERAL ITEMS.

**THE HOLE SEPTICHE, JERUSALEM.**—The *Paris Patrie* says that both France and Russia reject the proposition of the Porte to participate in defraying the expenses of reconstructing the cupola of the church of the Holy Sepulchre at Jerusalem.

**THE THAMES EMBANKMENT.**—Monday, the Hon. Mr. Cowper in the chair, the case of the Duke of Norfolk, in connection with the Strand estate, comprehending Surrey, Norfolk, Howard, Arundel, and other streets, of which the Duke, who was represented by Mr. St. John, Q.C., the guardian, is the owner, a town survey on the consideration of the Railway Committee. The Strand estate has a frontage to the river on its south side of 540 ft. in length, and the Duke claims right of foreshore all along it under charter from Charles I. It is proposed to run a sewer, together with the embankment, and to make communications out of them by means of a side road, leaving an angular space 500 ft. long and 60 ft. wide between the embankment, the side road, and the river wall, the width of the river, and to communicate with the streets forming the Strand estate by continuations, the result of which as alleged would be to cut off entirely the water frontage of the estate, and to destroy, by the through traffic, the existing privacy of those streets. Under these circumstances, the committee were asked to give protective clauses to the effect that the land reclaimed should not be used on, but be vested in the owner of the estate, together with control over the traffic. The committee expressed a general approval of these requirements, and ordered clauses in accordance with them to be brought up.

as well as in the case of the Marquis of Salisbury, who sought similar protective provisions in connection with his property in Salisbury and Cecil Streets. The City of London Gas Company sought the insertion of clauses giving them the exclusive use of the footways between the embankment and their works at Whitefriars for their lighter, storage, and works. Mr. Gray, the chairman of the company, and Mr. Hawkesley, C.E., were examined in proof of the expediency of this, showing that the company's river frontage extended 330 ft. along the river, and that all the available space alongside was required for the manufacture of their gas for supplying the city, which last year amounted to 481,000,000 cubic feet, with 61,745 tons of coal consumed. Mr. Burke having pointed out the provisions intended to be introduced into the Bill for furnishing the company with adequate facilities for their trade and manufacture, and showed that the embankment would be carried in front of their premises with open arches of 70 ft. span, the committee negatived the application, the parties reserving their opposition for committee of the House of Lords. On the application of Mr. Hope Scott, on behalf of the Duke of Buccleuch and the Crown Lessees, it was agreed that the correspondence between the Treasury and the Commissioners of Works should be produced and entered on the minutes, and the committee adjourned.

**PARIS UNIVERSAL EXHIBITION.**—It is announced that a permanent universal exhibition will be opened in Paris in the summer of 1863, under the patronage of the emperor. The building is to be on a grander scale than the London Exhibition, the dimensions being 1000 ft. long, with a central dome 345 ft. in height. One of the grand features is that foreign goods will be admitted for exhibition free of duty, with liberty to re-export them, or they may be sold on the spot, paying the duties levied under the new tariff. The great inducement held out to English manufacturers is that they will be enabled to exhibit their goods, and thereby place the large sale of spurious articles now going on in Paris. The capital of £600,000 has already been subscribed in France and Belgium. The building is in course of construction.

**BRICK MACHINE.**—This invention, patented by John J. Alford, of Tecumseh, Mich., consists in a novel and improved clay-tempering device, rotary mould-wheel and screw-feeder, so constructed and arranged that the whole process of moulding brick is performed by the aid of the screw, which, by a rotary motion, the working parts being so arranged as to admit of a quick movement without the liability of getting out of order or becoming deranged in any way.

**THE PROJECTED CRYSTAL PALACE AT DUBLIN.**—A company has been formed for the erection of a permanent Crystal Palace, the directors including forty of the most influential and wealthy gentlemen of the city, with the Duke of Leinster as chairman, and Mr. B. Lee Guinness as vice-chairman. The ground selected, about fifteen acres, is to be turned into a winter garden, and in its centre the palace is to be put up, containing a concert hall, along with galleries for the exhibition of work of art and art-manufacture.

**MEMORIAL TO A LADY.**—A memorial has recently been erected in St. Dunstan's Church, Ealing, in honour of the late Miss E. Harrison, of that place. It consists of the figure of an angel, five feet eight inches high, seated in a corn stone, bearing a brass shield, which is the following inscription:—"The poor of Ealing erected this tablet as a memorial of their gratitude to Elizabeth Harrison, who died March 20, 1860." The carver of the figure is Mr. S. P. Wood, of Lichfield; and the brass the work of Mr. Thomas Brown, architectural metal worker, Birmingham.

**A LADY SEATED.**—In the Great Exhibition (North Court, Central Division) is the statue of a large dog, sculptured by the lady of Henry Heathcote, Esq. (brother of Lord Aveland, of North Luffenham, Rutland), which has already attracted groups of admirers. The animal is represented as lying down, with its fore legs extended and its head erect, the pose altogether being very natural. It is the statue of a favourite living dog in Mrs. Heathcote's possession, and is a very simple and highly successful production from the fair sculptor's atelier, which, we believe, was on the premises of Mr. Bladfield, of Stamford, amongst whose beautiful terra cotta gods the statue in question has found a *locale* in the exhibition.

**THE DEMOLITION OF THE HORSES OF THE LONDON POOL.**—The *South London Journal* says:—"The construction of the Metropolitan Meat and Poultry Market will require 60 empty houses, and displace 939 persons, and we are told that the Railway Company will furnish cheap railway travelling, morning and night, to Farringdon Street, for 1,000 working men. Now, this is rather better than saying there is room for them in the neighbourhood, but who will build dwellings for these thousand men in the vicinity of a station, where land is sure to be almost as valuable as in the metropolis? Moreover, the cheapest possible cost at which a working man can be conveyed to and from the place, his labour being cheaply secured inroad upon his income, and the necessity of taking his mid-day meal apart from his family will add another formidable item to his expenses. It appears to us that what is required in all cases is, the construction of houses adapted for the labouring classes, contiguous to the territory which these public improvements invade, and that this should be done, if other means fail, by legal enactment. In the case of new streets, the needed accommodation for the working people might be afforded without much difficulty, and we see no insurmountable obstacle to it in the making of a metropolitan line of railway. We learn with much satisfaction that the attention of the Metropolitan Board of Works has been called to the subject, in connection with the new street in Southwark. There seems to be no reason why that street, throughout its entire extent, should be bounded by one-story and first-class houses. Why should not cheap, but yet commodious dwellings, for artisans and operatives find a place there as well

as more costly abodes? Even if it should not be deemed desirable to erect such dwellings immediately in front, there are many small sites abutting thereon which might be made available for them, so that the worst evils of displacement would be avoided. We have no reason to doubt that the matter will be taken into the serious consideration of the Board, and we shall truly rejoice if in the end they see their way clear to provide for the lodgment of those who have been dispossessed of their homes by a great measure of public improvement, which the new street unquestionably is."

**MONUMENT TO THE GROOM OF QUEEN VICTORIA.**—Messrs. Osmond and Son, sculptors, of Salisbury, have just erected in Whippington churchyard, Isle of Wight, a monument, consisting of a cross on three steps and circle with the following inscription:—"To the memory of George Frederick Jones, born 1820, died 1862, groom to Queen Victoria, and the faithful attendant during 13 years of the Royal children, by whom this stone was erected, 1862."

**DEPARTMENT OF SCIENCE AND ART.**—The increase of students attending the schools of the Department of Science and Art during the last few years is worthy of record. In 1859 the numbers were 85,969 persons; in 1860, 88,491; in 1861, 91,741. The number (included in the above) under Science instruction in 1861 was 6,390, to whom 322 prizes were awarded; in 1860 the numbers were 3,168. The travelling museum has been visited, since the circulating system commenced, by 608,707 persons, and the localities have realised 15,690*l.* in fees, which they have retained in aid of local expenses. This excellent arrangement has enabled the inhabitants of thirty-four cities and towns in the three kingdoms to examine the splendid results of Art thus brought to their doors.

**CARRICKFERGUS PIER, IRELAND.**—The Municipal Commissioners of the port of Carrickfergus have applied for a provisional order for works for improving the accommodation for shipping, by the construction of a pier or quay, giving a depth of five to seven feet at low water, and also for forming a breakwater on the west side of the harbour. The Commissioners have also sought for power to levy rates. The cost of the new works was estimated at £6,000.

**SHAKESPEARE'S HOUSE, STRATFORD-ON-AVON.**—The works for restoring Shakespeare's house at Stratford-on-Avon, and converting the ground adjoining into a garden, which is intended to be open to the public, have been actively commenced, and it is expected that they will be completed in about a year.

**THE UNDERGROUND RAILWAY.**—In excavating the cutting opposite Ray Street, which is intended to connect the Clerkenwell tunnel with the station in Victoria Street, the workmen have uncovered the large vault which contained the remains of the tower, now removed some years back from the pauper burial ground of Clerkenwell. This vault is of great depth, covered at the top with massive stone slabs, and ornamented with a large stone cross. The workmen have already removed the earth nearly to the level of the line, previous to pulling down the vault and removing the remains to some extraordinary place of sepulchre. A great number of labourers and artisans are employed on the site of the remains in Victoria Street, and many of the walls have been burnt out for use in the foundations of the stations at King's Cross, Gower Street, and the terminus of the line, are in a state of great forwardness.

**FALLING-IN OF THE FLEET SEWER.**—Great excitement has prevailed in Ray Street and Saffron Hill, Clerkenwell, in consequence of a falling-in of a portion of the Fleet sewer at those spots. The first alarm was given on Sunday afternoon between the hours of two and three, when about twenty feet of the roadway fell in, the old sewer having given way. The cause of its breaking away is attributed to the late heavy rains; but it may be mentioned that some years back, near the same spot, another portion of the same sewer fell in. Mr. Superintendent Gernon and Inspector Braunton, of the G division, with a strong body of police, were at once in attendance, and the roadway was barricaded. On Monday morning it was found that between ten and twelve feet more of the sewer had given way, and the whole of the houses were flooded. The whole of the flour belonging to Mr. James Warkley, baker, of 29 Ray Street, is damaged. Mr. E. Richardson, the landlord of the Coach and Horses public-house, and other persons, have sustained great damage. The surveyor of the parish has been communicated with, and efforts have been made to prevent any further damage.

**MORTAR.**—Burlington—Hopeton Place, in Academy Road, is now finished, and adds greatly to the amenity of that part of the town. The houses are on the metropolitan scale for beauty, accommodation, and attention to all sanitary requirements. Harelock Crescent is opening up a communication between the Old and the New West Roads; and another crescent, taking a similar curve, has lately and two houses begun it; other fine art is taking place in the building of a new grove is extending itself. The British Lion Company's Branch Bank is nearly finished, and is a handsome substantial building. The United Presbyterian Church is to be contracted for next week, we hear, and as we have seen the architect's designs, we know it will be a very elegant, commodious English-Gothic structure, and will greatly ornament the town.—*Correspondent of Scotsman.*

## CHINA.

THE aqueduct now in course of construction at Paris will be 4,034 metres in length.

In the House of Commons, on Thursday week, Sir G. Grey stated that a bill would be ready in a few days to provide for the construction of a second great road in the city of London.

The Mining and Scientific Press of San Francisco says that about twelve







personal application, or by letter, pre-paid, addressed to the surveyor, Mr. Frederick Ansell, C.E. The party contracting will be required to give sufficient security, to be approved by the Local Board of Health, for the due performance of the contract.

**ONE**—Persons desiring to tender for a quantity of oak oak, &c., of finest quality, for the permanent pulping of Charles 11. at Newmarket, may obtain particulars of Messrs. W. G. Heberston and J. G. Gies, architects, 33 Broadway Square, London, or of Mr. John Haswell, Newcastle.

**VILLAS AND COTTAGES.**—For the erection of a pair of small detached villas and six cottages, at Bromley, in the county of Kent, can be seen the plan of the office of Mr. J. W. Smith, architect, Walworth, where tenders, endorsed, are to be delivered on or before two P.M. of Thursday, the 19th instant.

**CHURCH REPAIRING.**—For the re-roofing and the performance of other works and repairs at the Church of St. Peter and Paul, Ovington, near Faversham, Kent; may be seen the drawings and specifications at the office of Mr. E. L. Blackmore, architect, on and after Monday next, and after Monday, the 23rd June inst. The tenders to be addressed and delivered, sealed up and endorsed, to the Receiver-General, Richard Quirk, Esq., Douglas, on or before the 5th day of July next.

**HOUSES AND VILLAS.**—For the erection of five houses, with retail shops, and four semi-detached villas at Edington, near Birmingham, can be seen the drawings and specifications at the office of Mr. J. A. B. Blackmore, architect, Birmingham, on and after Monday next. Tenders to be delivered on or before Wednesday, the 25th instant. The lowest or any tender will not necessarily be accepted.

**REPAIRING.**—The Isle of Man Harbour Commissioners are prepared to receive tenders for the construction of a breakwater, 690 feet in length or thereby, at the Harbour of Ramsey. Plans, sections, specifications and conditions of the work may be seen, on and after the 15th inst., at the office of the engineer, James Abernethy, Esq., M.I.C.E., 2 Delahay Street, Westminster. Sealed tenders, endorsed "Tenders for Breakwater," to be delivered to the Receiver-General, Richard Quirk, Esq., Douglas, on or before the 5th day of July next.

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## ABRIDGED SPECIFICATIONS OF PATENTS FOR INVENTIONS.

From the "MECHANICS' MAGAZINE," June 12.

**1861. G. O'NEILL.** Improvements in the manufacture of polished glass. *Patent granted.* *Dated Nov. 20, 1861.* Here the inventor proposes to rub, smooth, or flatten the upper surface of the newly-cut plate by passing it over the same suitable material composed of a bar of wood, metal, or stone, or any other material, and to use a roller or rubber for the purpose of facilitating the working or the operating of the same by the attendant workmen. *Patent claimed.*

**1861. J. C. CROFT.** An improved mode of fastening doors, and for other similar purposes. *Dated Nov. 20, 1861.* This consists in constructing a fastening for doors, drawers, windows, and other parts, in which the fastening is made in the form of a bolt which is worked by, or, if preferred, fixed to the handle, on turning which the bolt is made to protrude, and enter a groove or other similar provision made in the door frame, or catches or tumblers fast to the frame, so as to prevent the door from being opened, or, if necessary, it is necessary not only to lift the tumblers or catches, but at the same time to turn the handle. The provision also of a key-way in the lock which turns with the key, so that on any attempt being made to introduce a pick the key-way closes itself, and leaves but a very small passage to introduce anything further. *Patent completed.*

**1861. W. F. BARNES.** Improvements applicable to the construction of apparatus for the extinguishing of any configuration which may happen thereby. *Dated Nov. 20, 1861.* This consists in constructing a pump, in which the piston is connected to the handle of each apartment, the said apartments being in communication with tubes or channels opening into the chimney, or into the external atmosphere. Hence, if a fire takes place in the building, it will only be necessary to turn the handle of the pump, and fire will be sent by the said apparatus. The invention also consists in placing a cylinder or receptacle at the upper part of the building, from which pipes descend which run from the said cylinder to the basement of the building, and may form supporting columns or pillars to lift, sustain branch pipes and valves are employed for conveying the water into any apartment where fire may occur. *Patent completed.*

**1861. K. PAYTON and W. F. BARNES.** Improvements in laths for supporting bedding and cushions in beds, sofas, seats, and seats. *Dated Nov. 22, 1861.* This invention consists in constructing elliptical laths, each separate lath being composed of two strips of metal united or brought together at their two ends and bowed towards the centre; between the two strips the patentees fit hoops of steel, vulcanite or other metal spring or springs, to constitute spring laths for supporting bedding, cushions, and seats. *Patent completed.*

**1860. E. A. ROWEN.** An improved pump. *Dated Nov. 22, 1861.* This consists in the use of two pistons of different diameter, which are firmly secured to each other and work together in a pump barrel composed of two barrels of pistons of different diameter, so that, as the pistons move or travel in their respective barrels, the capacity of the space comprised between them is such that it is equal to the space or portion of the pump bounded by the pistons, and the said pistons being connected to the handle of the pump, the capacity of the space increased or reduced according to the direction in which the pistons travel—that is to say, when the direction of the piston's motion is such that the larger piston is moving towards the smaller piston, the capacity of the space is increased, and when the direction of the motion of the said piston is such that the larger piston is moving away from the smaller piston, the capacity of the space is reduced; and when the pistons move in the reverse direction, the capacity of the said space is increased or enlarged, by which the forcing and suction of the water liquid is effected. *Patent completed.*

**1861. J. B. HILL and L. G. POORE.** An improved process for hardening stones and plaster of Paris, and making them impervious to water. *Dated Nov. 25, 1861.* The composition which the patentees prefer for their hardening liquid is composed of the following ingredients in certain proportions:—Borax, white lead, sulphur of alumina, acetate of lead, sulphate of soda, silicate of soda, and water. *Patent completed.*

**1860. J. H. JOHNSON.** Improvements in machinery or apparatus for preparing oil picture frames. (A communication.) *Dated Nov. 25, 1861.* This consists essentially in the use of a scraper or working down tool, in combination with the force plate of an eccentric belt, or with an elliptograph or other suitable apparatus, the scraping tool being made self-adjusting to the irregularities or variations on the surface of the frame, and working edge being the reverse of the intended moulding. When an eccentric lath is used, the oval frame is mounted upon the face plate of the lathe, and the scraper is oval or of the shape of the frame, whilst the scraper remains stationary, but is held against the frame by a yielding pressure. When an elliptograph, or other similar contrivance is used, the oval frame is laid upon a stationary tool, and the scraper is caused to travel over its surface by the action of the elliptograph, it being at the same time free to rise and fall, so as to allow of any irregularities on the surface under treatment. *Patent completed.*

**1860. J. DAVIS.** Improvements in the construction of roofs for dwelling houses, horticultural erections, and other buildings. *Dated Nov. 25, 1861.* The inventor constructs the roof of dwelling houses, and other buildings, in such a manner that the rafters, or ribs, or, if, say, every alternate rafter, with one or more grooves or channels, which he covers with sheet lead or other metal. Over these, with the exception of those which he places at the sides, ties, stones, &c., are laid, so that in their vertical position they will be able to stand against each other, just over the grooves or channels, and thus have latter to convey away water. In their horizontal position each succeeding one overlying the other, and the water downwards in the usual way. *Patent abandoned.*

**1860. R. HAWCROFT.** An improvement or improvements in fastening knobs to doors, drawers, and other articles; and in the application of a spring. *Dated Nov. 25, 1861.* This consists in fastening knobs to doors, drawers, &c., and in connecting knobs to locks or other appliances, by a divided collar or sleeve, which is made to engage with a pin or shoulder which terminates the neck of the knob, or to engage with the neck of the knob. The invention is not described apart from the drawings. *Patent completed.*

## PROVISIONAL PROTECTIONS.

1385. T. McIlroy, Brampton, Canada West. An improved tread bedstead. *Dated May 9, 1862.*

1411. R. M. Joubert, upholsterer, 15 Maddox Street. Improvements in raising mine chairs, stools, or seats. *Dated May 14, 1862.*

1412. R. S. Rickman, Crouchend, and Richard Smith, Hunsdon, civil engineers. A new and improved joint for uniting or fastening shafts and rails of bedsteads and other articles of furniture, joints, and rails in fencing, is the construction of framework for conservatories, engineers, and other portable houses. *Dated May 15, 1862.*

## PARTNERSHIPS DISSOLVED.

Moor, Brothers, Bushall Green Road, carpenters.  
Spinks and Collier, Harrow-on-Humber, Lanesmiths, painters.  
Cox, Henry, iron-merchant, as far as regards W. D. Newark.  
Taylor and Co., Oldbury, Worcestershire, ironfounders; as far as regards J. Botolph.

## BANKRUPTCY ANNULLED.

John Lawrie Rickards, Parliament Street, Westminster, engineer.

## BANKRUPTS.

Esauhy Perry, Enfield, plumber, July 1, at 10, to surrender at the Bankruptcy Court, Basinghall Street.  
Thomas Minnie Vernon Smith, Park Road, Islington, engineer, July 1, at 11. Basinghall Street.  
Daniel Wood, Queen Street, Blackfriars Road, bricklayer, July 1, at 11. Basinghall Street.  
John McClinton, textile merchant, Bow Lane, Cheapside, July 4, at half-past 11. Basinghall Street.  
William Wicks, High Row, Silver Street, Kensington gravel-pits, carpenter, June 20, at 1.  
Henry Wood, Birmingham, brass carrier, June 25, at 10. Bankruptcy Court, Birmingham.  
George, Sheffield, iron-merchant, as far as regards J. Botolph.  
Henry Chaworth, late of Aulston, Cheshire, wheelwright, June 25, at 10. Bankruptcy Court, Liverpool.  
Robert Cleaver, Stretton-upon-Dunsmore, Warwickshire, carpenter, June 25, at 11. County Court, Rugby.  
William Schuchard, Middleborough, Yorkshire, journeyman joiner, June 27, at 5. County Court, Stockton-on-Tees.  
John W. Atwater, Card, contractor, July 4, at 11. Bankruptcy Court, Bristol.  
Thomas Thomas, Birmingham, and Christopher Graham, as far as regards J. Botolph.  
Merchants, June 20, at 1. Bankruptcy Court, Newcastle-upon-Tyne.  
Richard Henry Howard, Kingston, Putney, June 15, at 11. County Court, Portsmouth.  
George Wilson, Coppell Moss, within Coppell, Lancashire, wheelwright, July 10, at 9. County Court, Chorley.  
Thomas Vaughan, Tordridge Woods, builder, June 20, at 10. County Court, Tordridge.  
William Beer, Devonport, journeyman stonemason, July 9, at 11. County Court, East Stonehouse.  
George Birch, Wolstanton, Staffordshire, joiner, June 20, at 11. County Court, Hanley.

## NOTICE OF SITTINGS FOR LAST EXAMINATION.

June 24, W. G. P. Britten, Bridge Road, Battersea, engineer.  
June 24, A. Brown, late of Liverpool, engineer.  
June 24, H. Cumberland, Great Solon, Lancashire, engine-fitter.  
June 24, J. Perkins, Barrow-in-Furness, iron-merchant.  
June 24, W. Dunckley, Luton, builder.  
July 9, J. Smith, Strand, cabinet-maker.  
July 10, J. Talbot, jun., Spaldwick, Staffordshire, carpenter.  
July 8, B. Tenter, Tipton, cooper.  
July 9, W. Dunlop, Postmaster, journeyman joiner.  
July 11, M. Page, Stratford, builder.  
July 11, H. Gratton, late of Caning Place, Kensington, Rolls Buildings, Fetter Lane, Chancery Lane, and Post Office, Westminster, engineer.  
July 15, C. Phillips, Tottenham, Hertfordshire, carpenter.  
July 17, H. Grove, Newby Regis, Staffordshire, carpenter.  
July 15, A. Ford, Newark-upon-Trent, coachbuilder.  
June 24, B. Burton, Bedford, engraver.  
June 24, R. Bullimore, the younger, Great Yarmouth, house carpenter.  
July 8, E. Jones, Edge Hill, West Derby, bricklayer.  
June 24, A. Aker, near Sheffield, journeyman joiner.  
July 12, J. Fletcher, Torquay, carpenter.  
July 20, J. Haines, Chatterley, Staffordshire, mining contractor.  
July 10, J. B. Burroughs, Brighton, plumber.  
July 8, P. Pott, Brighton, carpenter.  
June 24, J. F. Fox, Great Yarmouth, builder.  
June 25, T. Fust, Great Yarmouth, builder.

## DIVIDENDS.

July 11, G. Scott, Bluchtown, late of Dogs, engineer.  
July 17, G. Repp, Camberton, Dorsetshire, builder.  
July 9, J. Spence, Great Yarmouth, steamboat.  
July 7, T. R. Oswald, Sunderland, ship builder.

## SCOTCH SEQUESTRATION.

George Battie, Edinburgh, builder, June 20, at 11. Dowell's and Lyon's Rooms, Edinburgh.

## TO CORRESPONDENTS.

We cannot undertake to return rejected communications.  
We are, however, anxious to hear from our readers who will favour us with notes of works contemplated or in progress in the provinces; in most cases an simple mention that a work is about to be, or has already been commenced, will be sufficient.

Received—W. R. M. T. O. S. J. R. T. G. J. S. P. and A. M. B. N. J. W. T. E. H. G. and B. T. H. L. D. T. A. G. J. S. W. W. E. H. W. E. H. B.

\* \* \* \* \* THE BUILDING NEWS is published at 106 Fleet Street, where all Communications and Advertisements should be addressed.

## MR. G. G. SCOTT, ARCHITECTURE, AND CIVILISATION.

GO where we may, we meet with egotistic people. Most people think more of themselves than others think of them. They put a higher price on their works than can be realised. They think more of their own profession than all other professions put together. Mr. G. G. Scott is one of those people. Listen to what that gentleman said in his lecture, at the South Kensington Museum, on Tuesday last. "On the Fortification of the National Museum of Architecture, viewed in connection with its Hearings upon Medieval Art." "The history of architecture," says Mr. Scott, "is the history of the world: it is the history of the changing power and dominion of races and nations; it is the history of human thought, and of the growth, the fluctuations, the decay, and the revival of human civilisation." This is a fine sentence. Let us analyse it, and see what it is made of. We have hitherto considered architecture to be one of the expressions of a people's intellectual and industrial condition; one of the manifestations of its social and religious life. But Mr. Scott steps upon the scene, and recklessly brushes away every other incentive to action, every other spring of human progress. If he is correct, henceforth and for ever architecture and civilisation are synonymous terms; and science, religion, freedom, agriculture, statesmanship, heroism, patriotism, navigation, literature, geographical advantages, race, and the thousand-and-one things which make up the sum total of human effort, progress, and happiness, are as many empty names.

We do not remember seeing or hearing a single sentence which contains so many mischievous fallacies as the one just quoted, and we are surprised that some one did not rise in the meeting and rebuke Mr. Scott for his misconception, his exaggeration, and his extravagant language. If this is a fair specimen of his teaching, then are the blind leading the blind. We are prepared to give Mr. Scott or any one else "ample room and verge enough," where he may air his hobby to his heart's content; but when he ignores everything and everybody else, when he builds up his pet idea on the ruins of ideas equally dear to other men, when he advances the pretensions of his own profession at the expense of other professions, when he gives a contemptuous go-by to every great element of civilisation in order to magnify the one which he represents, he speaks egotistically, incorrectly, and deceivably.

Mr. Scott makes architecture the be-all and end-all of human life. Men, according to this theory, are born for no other purpose than to build and decorate houses and cathedrals. When a man has done something towards the architecture of his country, or, we suppose, stood in its presence and uttered some grandiloquent language about it, he has answered his purpose and may go hence. Mr. Scott's description of architecture reminds us of the Wesleyan preacher, who used a great many fine words to prove that all the vast enjoyments and employments of the inhabitants of heaven consisted in palm-singing. When about to take a tour in Wales, some years since, a Welshman, less egotistic and more satirical than most of his countrymen, said that if we wished to make friends wherever we went, we should say that Adam was a Welshman, that Paradise was in Wales, and that the Welsh language would be the language of the millennium. In a similar way, any one may make a friend of Mr. Scott by saying architecture was the alpha and omega of human existence and human history.

Now civilisation is not so simple and so one-sided a thing as our medieval teacher would have us believe. It is many-sided, and derives its life and power from many sources. Mr. Scott, in developing his idea of an architect's empire, appealed to classical times and peoples. Nobody knows better than that gentleman, that the Greeks were as famous for their language, their literature, their laws, their patriotism, and their martial prowess, as they were for their architecture; and that ancient Rome rendered herself more famous by her orators, generals, colonisers, consuls, and lawgivers, than she did by her architects, and that she wrought her impress more deeply in the world's civilisation by her Will than she did by her conception of Beauty.

It would be impossible to say in a single word or a single sentence in what our English civilisation consists. We are a peculiar people, and are doing as much, if not more, for civilisation than any nation that has existed or does exist. No doubt, if certain one-idea men were appealed to, they would easily define to their own satisfaction the true secret of England's greatness and her true mission amongst the nations. One would say that the English were a great people, because the blood of many races mingles in our veins—that the Saxon, the Celt, the Scandinavian, the Teuton has each, in his turn, contributed to our strength. Another would show that the power of the Englishman consisted in his individual freedom, in his municipal institutions, and the constitutional government under which he lives. Another would point to facts, and prove that the source of our strength and our progress were in our geographical position, and

in the treasures of tin, copper, iron, and coal, under our soil. Another would point to the application of the principles of political economy and free trade amongst us as the source from which our national energies are fed. Another would say that England was mighty and renowned because "Britannia ruled the waves," and that, as a consequence, our commerce whitened every sea and kissed every shore. Another would maintain that our commerce, our agriculture, and our enterprise depended on the application of science to industry, and that the English were particularly distinguished for regulating and utilising the forces of nature by scientific appliances. Even Mr. John Bright, whom some would accuse of being a one-idea man, stated in the House of Commons, a short time since, that our greatest men were not our warriors or our statesmen, but our engineers, who created new industries for men, and transformed the face of nature. But Mr. Scott appears to see little or nothing in the applied sciences, in industrial endeavours, in well-regulated laws, and admirably balanced constitutions. One subject attracts his gaze and absorbs his attention. He has been so long accustomed to the "dim religious light," that his vision is impaired. All other things, whatever may be their age, their magnitude, or their influence, are but dust in the balance, when compared to architecture, for "the history of architecture is the history of the world; it is the history of the changing power and dominion of races and nations; it is the history of human thought, and of the growth, the fluctuations, the decay, and the revival of human civilisation." Here, certainly, the "nothing-like-theory" theory has reached a climax. Sea-kings, conquerors, Tubal-Cains, Cansars, Luthers, Cromwells, Ciceros, navigators, discoverers, Homers, Danes, Napoleons, Shakespeares, are mere waifs on the mighty stream of architectural civilisation. It has been said that every mother's duck is a swan, but Mr. Scott's duck is a bird of paradise, whose plumage is so dazzling that it utterly eclipses all surrounding objects. If Mr. Scott were a general, he would extinguish the stars for the sake of Mars.

No good result can be gained by exaggerations like this. He is the truest artist and the best teacher who can see things in their true light and real proportions, and who can assign to each art, science, and organised effort its relative importance. The hand must not say to the eye, "I have no need of thee," neither must the heart say that the brain is superfluous. All organs and faculties must harmoniously work together for the correct life of the individual; so must the musician, the soldier, the miner, the husbandman, the metal-worker, the architect, the navigator, the philosopher, and lawmaker work together, each in his particular sphere, for the general good. Let me make the song of a people, said a statesman, and I don't care who makes their laws. What would Mr. Scott think, if Tennyson, before an audience of literati, said, "The history of poetry is the history of civilisation," &c.? Would he not think that the laureate was the victim of a disordered fancy? May not the laureate return the compliment? Does not literature exert a much more potent sway over civilisation than architecture? Let not the poet attempt to snuff out the architect, or the architect attempt to snuff out the poet. Each has a mission to perform essential to the higher wants of man. Civilisation, in its slow but sublime march, asks for the poet's song, the orator's electric fire, the worker's skill and furnace, the warrior's courage, the architect's realised conceptions, the patriot's struggle, and the martyr's blood. All are invited to bring their respective contributions to the sum total of individual and organised endeavours. Mr. Scott will do a more worthy work if he will occasionally come outside the Medieval edifice, and acknowledge the presence of trees, streams, mountains, flowers, and stars. At all events, he may acknowledge the existence of, and give a passing salute to, other workers in the vast vineyard of civilisation.

## INTERNATIONAL EXHIBITION.

## CARVED GOTHIC STONEWORK.

A SMALL court to the south-east of Minton's Majolica Fountain, in the International Exhibition, daily attracts a peculiar class of visitors. More sight-seers tacitly acquiesce in the obstruction which has been placed before its entrance, and include only in a somewhat distant view of the several groups of inland masonry and jewelled stonework. A few, seeking a short return-cut from the rear of Magnus' Enamelled Slate Court to the main avenue, find further progress here impeded by the dark collar which forms its northern boundary, and which contains the shattered hopes of several disappointed contributors, mingled, in dust and dirt and damp, with colour-pots and lumber. Thus checked, they look for a moment through the seeth partition into the gloomy cave, and then bestow a glance or two upon the fine works with which they have undesignedly been brought into close proximity. The visitors who seek out this court, and purposely examine its contents, are men of clerkly appearance, dressed in solemn seriousness, upon whose faces beards are never

seen, whose skirt fronts are veiled by broadly-spread glassless waistcoats, and whose coats are long and richly embroidered. He sits with a quaint curl of the brim, covers some of their heads, and cloth gaiters their lower limbs. Their opinions of the different works are given rather loudly, with a measured stateliness, to their companions, and are regulated more by their affection for High or Low Church, than by their acquaintance with high or low art. The same section of Englishmen are seen in force in what is called the Medieval Court, condemning contemptuously, or preposterously praising, that which is the embodiment, in wood or stone, of their several predilections. Stirring busily amongst these quietly moving men, are others more voluble, who appreciate every piece of floor-spar mosaic which Mr. Street has set in his work, every line of colour and square of marble which Mr. Bentley has designed, and every figure and fragment of ornament which Mr. Earp has with such unerring precision hewn from the rough stone.

This Court is devoted to the best work of one of our ablest Gothic carvers, Mr. Thomas Earp, of Kennington Road. The examples of his craft are here gathered for a little time together, before being dispersed to their several destinations. One only has been expressly prepared for this Exhibition. It is a little richer in its decoration, but no better in its execution than the others, which are the ordinary productions of his workshop. We thus have a fair sample of his skill, and it is satisfactory to see that it is not over-wasted upon unworthy design. It is, perhaps, quite natural that architects who can design like Mr. Street, Mr. Bentley, and Mr. Nesfield, should appreciate Mr. Earp's ability to do justice to their conceptions; but it also too frequently happens, that men of feeble powers seize upon a strong and experienced hand to do out their little knowledge. Salderning work of this latter kind must have entered for reformation into Mr. Earp's as into other men's workshops, but we have no specimen of it here, and we distinctly repeat, they are no show specimens of Mr. Earp's work, although they may be of what his work is only occasionally united with. He cannot be expected to devote himself exclusively to the foremost architects, and is no doubt content to afford them the opportunity of testing his capacity to compare their conceptions, and of showing how Gothic carving can be done.

On the left of the Court stands a dairy fountain designed by Mr. W. E. Nesfield, for the Earl of Sefton. It is about 6 ft. high. The whole is of stone; the large circular basin is lined with lead, which laps over the top, where it is ornamentally cut, and secured with large conical-headed nails. This basin is carried by eight detached dwarf columns, with wide spreading basins and carved capitals, which cluster round a sturdy central shaft. From the centre of the basin rises a short column of marble, with a capital of carved leaves instead of capital; foliage, curling outwards, ornaments its angles, and engraved metal plates its sides. The jets of the fountain come through these plates and are fashioned into metallic resemblances of dolphins' heads—not the blubberous bunches which renaissance architects have bequeathed to us, but, instead thereof, something wherein the grossness is pared away by art, making them much fitter for their purpose, and in better harmony with the ornament to which they are allied. The vertical sides of the basin are decorated with incised representations of spring, summer, autumn, and winter, and between each of these subjects squares of mosaic or marble are inlaid. On one of these mosaics a peacock is portrayed, with a delicious combination of coloured material, but what analogy there is between the proud bird and a dairy, we are at a loss to discover. On another, a quaint conceit reveals to us the milky way "thick inlaid with patines of bright gold" and circles of creamy whiteness. The architect might as well have given a plain English name to this panel; it would have been as comprehensible as a good and far better than the bad Latin one which it now bears. There is a trifle of affectation in the subject panels, which might, moreover, we think, have been more appropriately filled, but the design altogether is a grand one, and well realised.

Near this fountain is the reredos for St. Philip and St. James's Church, Oxford, designed, as all our readers know, by Mr. Street, and carved by Mr. Earp. It consists of a central pointed arch, with foliage in the angle-mouldings, supported by the carved caps of green shafted dwarf columns. The abacus of these columns is extended as a string on both sides, where, over it, single trefoil-headed niches or deep sunk panels are introduced, and under it the surfaces are decorated with inlaid colour. A large and two smaller plain gables, crowned by finials, surmount the three panels respectively. The side panels contain figures of a couple of saints, and the central one a well carved representation of Christ in the Garden. The reliefs have a true medieval character without an atom of the bad drawing which is by too many considered inseparable from it. Cupae are introduced superficially in the large panel following the lines of the arch, and their spandrels are studded with globules of spar, which we venture to think are no improvement to the design. The surface of the reredos is decorated with red and green inlaid ornament, of which,

if the result be not caused by its association in this Court with more brilliant work, is too low in tone and has rather a common-place tawdry appearance.

If its juxtaposition with something finer mars its effect, the damaging neighbour is Mr. Street's own work. It is the excellence of the pulpit for Bournemouth Church which overshadows that of the Oxford reredos. No finer work ever came from Mr. Street's hands, no better carving ever left Mr. Earp's. The "fatal facility" for designing ornament and figures which too often crowd the details of Mr. Street's designs, is here kept well in subjection, although we must own that, spite of its faultless execution, and of the purity of its conception, we should not have mourned the loss of the angel which supports the reading shelf. It is a piece of this drawback, a most lovely piece of work, rich and yet delicate in its colour, bold in its supports, and tenderly treated in the belt of arched alabaster which they bear. The lower portion is of stone. The dwarf columns rest on a high plinth and their moulded caps die beautifully into the hollow which bends forward to enlarge the upper portion. The lower portion of the drum is formed into quatrefoil panels, filled with a lovely arrangement of green, grey, red and white marbles, and a central disk of spar set in a slight ring of indented stone. The alabaster arcade is continued round, and forms the boundary of the pulpit. It has trefoiled arches, and splendidly carved heads in the spandrels, and the whole is capped with a shell of Mr. Street's having a tooth ornament. The pulpit is of fine example of harmonious colour. Stone, alabaster, and coloured marble all help each other. They are not only rightly placed, but they are what is perhaps less studied by modern architects, of the proper tone. There is nothing violent, strained or affected in the work, and the more we examine it, the greater is our admiration both of the design and of the execution.

The little font at Huntley Church, designed by Mr. S. S. Teulon, and carved by Mr. Earp, is a very good specimen of the pure English Gothic work, that is, it has no colour, except in shafts of columns, and contains no relief of foreign elements. It is of an octagon, supported by four columns with carved capitals. The ordinals and emblems are introduced, in panels, on the octagon sides, and half-figures of angels at the root of the basin are so well incorporated with the design, that they appear to grow out of, instead of being stuck upon it. Between the columns, standing or sitting on the plinth, mannikin emblems of the Evangelists are placed. They are beautifully carved, but the little dolls are no ornament to the design, and their removal would relieve it of its only puerile features.

Mr. Bentley's reredos, executed expressly by Mr. Earp for the Exhibition, is built up on the southern side of the Court. It does not, perhaps, have the tender treatment equal to Mr. Street's Bournemouth pulpit, but it is, nevertheless, a remarkably fine work—rich in material, and richer still in art. It is divided horizontally into three compartments, the lower one is intended to be fronted with the altar, and is, therefore, plain, with only an angle column at each corner. The central compartment bears six panels, filled in with what appears to us a continuous representation of St. Michael's combat with the devil. The figures are white, on a black ground; surrounding the diamond slabs which bear these representations are green and red marble mosaics, with jewelled centres. The alabaster framework is chased, and is filled in with colour. Marble shafts rest on a broad black string below, enclosing on either side the whole of the reredos. A kind of buttress, highly and originally carved, rises on each of these caps, and is united with the main cornice. The upper compartment is divided by marble shafts into three divisions, which bear upon their projecting caps figures of Uriel, Michael, Gabriel, and Raphael, beautifully carved in white alabaster. These three divisions are filled with oval panels. The two outer ones contain figures in relief, and the centre one a rich jewelled cross, with emblems of the Evangelists between the branches; a mosaic ground is fitted to all the panels. Another row of rich floor-spar jewels runs along the top of the cornice. The reredos would be a striking feature of any church, but we should like to see it in a building designed and executed in thorough keeping with it.

Another joint production of Mr. Bentley and Mr. Earp ornaments the nave. It is a drinking-fountain. To say that it is better than any hitherto built in London, is but poor praise. It is fully equal in merit to the reredos which we have just described, and has the same amount of thoughtful originality and dexterous workmanship.

Adjoining Mr. Earp's court, the doorway of the mortuary chapel of the Digbys, now building at Sherborne, Dorset, for G. D. W. Digby, Esq., is partly built up. The arch over it is wanting, but a photograph placed by the side of the entrance is to render its effect complete. It is very early pointed, and the mouldings of the jambs and arches is crowded with foliated ornament. The shafts of the columns are of coloured marble, but Mr. Slater, the architect, has not, we think, been happy in his selection of the colours; we question if a variety in them was necessary, but, at all events, the alternate red, green, yellow, and red, do not enrich the work, and in the inside, where two

colours are introduced in the same shaft, separated only by a stone ring, the effect is disastrous. The tympanum of the arch will contain the sculptured group now exhibited in the Medieval Court by Rodfearn. The carving is excellently done by Messrs. H. Poole and Son, of Great Smith Street, Westminster. The same carvers, in the immediate vicinity, exhibit two fine and valuable specimens of inexpensive wall surface decoration, which depend almost entirely upon the ability with which they have been designed. They are made by incising slabs of alabaster, and filling in the channelled lines with different-coloured cements. In the centre of one, there is a good and original representation of the Lord's Supper, boldly etched from Mr. R. T. Bayne's design (of the firm of Clayton, Bell, and Bayne, the well known glass painters). The essential point in this system of decoration is excellence of design, and this Messrs. Poole have procured. Over one of these specimens, on the east wall, we find eight carved bench ends, designed by Mr. Slater for Chichester Cathedral, and executed by Mr. Forsyth's practised hand. Like the doorway of the Digby Chapel, they are crowded, perhaps overcrowded, with work, and like it the work is of the best kind.

Near it, a long unfinished reredos, by Mr. James Williams, of Ipswich, awakens a regret that so much labour should be applied to so little good purpose. When we say that the central compartment aims at producing a reduced copy of Leonardo da Vinci's Last Supper in relief, it is sufficient, perhaps, to condemn the work. The other compartments represent incidents in the life of Christ. We are sorry to condemn anything which may be the production of a working man, ambitious of exhibiting his work amongst the productions of the world, but there is nothing to interest any one who knows aught of art, except an industrious, although unsuccessful attempt to achieve something great. As regards design, whether of architecture or sculpture, it is in no way better than the specimens executed by the students of the Architectural Museum. The prize designs for wood carving exhibited by the students of the Architectural Museum, placed in the immediate neighbourhood, are very creditable productions, and the extra prizes were well earned, and very properly bestowed.

If the huge ungainly pulpit, which Messrs. Cox and Son exhibit in this part of the building, be sent simply as an example of the facility and cheapness with which Cornish Down stone may be most elaborately carved, there can be but one opinion about its success. As a work of art it is not worth as many pence as it is ticketed with pounds (80). It is in shape like a frog-tumbler, and represents an oak-tree, with its gnarled root and trunk as a support. It is covered with leaves, admirably copied we admit, but what has it all to do with a Christian pulpit? What building could it suit, or what structure could be built to suit it? It might be becoming a characteristic of the order of the Druids, whose ignorance of art and affection for the oak might cause him to feel proud within or before it, or it might be indelphin in the chapel of the Asylum for the Blind. We can think of no other destination for it, even at the insignificant price put upon such a large display of skilful labour.

### THE ARCHITECTURAL ALLIANCE.

It is proposed (as was suggested by us not many weeks ago) to hold a preliminary meeting of deputies from Architectural Societies, to establish an Architectural Alliance, on the 2nd of July. Whatever the result, for we cannot but feel that as yet the Alliance is only a mere project, and one which will be perhaps difficult to render practical, we must honour the intentions with which the scheme is planned, and desire that they may be fulfilled at no remote time, and in no scanty measure. An intimate relationship among the various members of the profession, and a correspondence between the various societies, are most desirable, but we are not sure that the machinery now proposed is exactly the best for accomplishing these ends.

Perhaps the proposed alliance may be either greatly modified, abandoned, or superseded; in either case the promoters will no doubt feel disappointment. The great aim, however, to be gained is not the establishment of this or that mode of union, but the recognition by the societies and their friends of the *idea* of union, cooperation, and correspondence. That recognition is partially accomplished, and no amount of difficulty or delay can rob Mr. Pritchett and his friends of the credit of drawing attention to it, and impressing it on the minds of many, as well as familiarising the societies with it, and having sketched an outline upon which it may be based.

In our article already referred to, we spoke of the conspicuous absence of the Institute, and we cannot help feeling that the scheme ought to have emanated from that body, or at least to have been promoted by it. It now remains to be seen whether (as in some other cases) the Institute will adopt the scheme, or whether it will propose a scheme of its own, or will prefer for the present to stand aside. An association of Societies with the Institute at its head, is probably, if not certainly, one of the things which sooner or later will be realised.

As it may be a necessity, or at least is becoming one, it would be graceful to recognise the movement which originated in the North, and to give it the hearty support, and guidance which the leading Society can so well furnish.

If, declining this course, the Institute adopts a plan of its own, we hope it will be such an one as can command the cordial cooperation of the other societies.

We hope that the delegates who are to meet on Wednesday will not lose sight of these considerations. The abstract principle that an alliance is desirable, will probably be agreed to at once. The simple organisation proposed, stands a fair chance of being adopted, and the delegates may think their work done, when, in fact, the serious part of it has only been touched. Organisation is a simpler matter than mastering the difficulties of the work to be performed. These difficulties, however, must be foreseen and provided against, or they will compromise permanent success. They have their rise partly in the novelty of the proposal, partly in the fact that it has not originated in the metropolis, and partly in the temper and the instincts of the bodies of men most chiefly interested. Good feeling, good sense, and openness, an earnest desire for the general good, and the forbearance and conciliatory spirit to which such a desire gives rise, will, however, overcome, in the long run, all obstacles; and if only these qualities be brought into play, we doubt not that the history of the alliance of Architectural Societies will be a long and a happy one.

### THE EXHIBITION AND THE SATURDAY HALF-HOLIDAY.

A CORRESPONDENT in another column calls on the Commissioners to open the International Exhibition on Saturdays for a shilling. We see many reasons why this should be done, and scarcely a reason why it should not be done. The only reason why it has not been brought against the suggestion is that the season tickets were purchased, in the first place, with the distinct understanding that Saturday should be a five-shilling day, and that an alteration would be an infraction of an agreement. Now, as season ticket holders, in most cases, can attend almost any day of the week as well as Saturday, without any inconvenience to themselves, we think the Commissioners would be perfectly justified in making the alteration. There can be no doubt that such an alteration would be hailed as a boon by hundreds of thousands: the revenue of the Exhibition would be improved, and a significant encouragement would be given to the Saturday half-holiday movement. Those are three advantages which would more than counterbalance any inconvenience that might be felt by the few. We hope the Commissioners will well consider the suggestion with a view to its adoption, and they would do something to efface the memory of the many blunders committed in the earlier stages of the Exhibition.

### INTERNATIONAL EXHIBITION.

#### MACHINE TOOLS.

IN instituting a comparison, as many of us are able to do, between the "Machine-tools" shown in the Exhibition of 1851 and that of 1862, we are scarcely fair to be struck by the fact that really very few improvements have been made in them during the eleven years which separate the two great events. In speaking of machine-tools, we refer more especially, however, to those which are used in the manipulation of iron. For instance, the lathe, planing, slotting, and drilling machines exhibited on the last might very well take their places on the present occasion, so slight is the alteration which has been made in them. The lathe is by far the oldest contrivance of the series, and it is still the most generally used in the construction of machinery. In its most complete and perfect form, as, for example, when made by our Whitworths and our Fairbairns, the lathe may be considered as a kind of universal appliance, for to a great extent it may be made to supply the place of every other. It will bore, drill, cut the threads of screws, and even plane the surfaces of its work. The lathe was exhibited in the Exhibition of 1851, and little more can be said of it in that of 1862. We are aware, nevertheless, that, owing to the general increase in the size and power of steam-engines, and especially of those for marine purposes, many gigantic lathes—which could not well be sent to South Kensington—have recently come into existence. These are principally used for boring out large cylinders, turning monster crank-axles, and for other purposes of a like character. Still, we maintain that few actual improvements have been made in the lathe, as a machine-tool, since 1851.

Pretty nearly the same remark applies to the planing-machine. This has certainly undergone no startling modification during the last eleven years, though it is, in some minor respects, improved. Again, the monstrous size of some of these has prevented their being displayed at the Exhibition, and, in order clearly to understand the changes effected in their construction, it would be necessary to make a tour of the great engineering establishments of the United Kingdom. The ends of mammoth girders, for railway and

other bridges are, in many instances, planned, and this has necessitated the introduction of machines of corresponding magnitude for the purpose of accomplishing the operations. In such cases, planing-machines are shop fixtures, so to speak, and specimens of them could scarcely be expected to be found in the Exhibition.

In speaking of the small apparent advancement which has been made in machine-tools during the period alluded to, it must not be supposed that we are indulging in the propensity for fault-finding which is said to be characteristic of Englishmen. We merely point out a fact, which, as scientific journalists, we feel bound to do, and which indeed to the mechanically trained eye is strikingly apparent. Machine-tools have, during the last quarter of a century, played a most important part in the economy of engineering and mechanical establishments, and in the future their mission will be of a yet more momentous nature. The want of such appliances was most painfully felt by the early manufacturers of steam engines, and Watt in particular, must have been greatly embarrassed thereby in his strenuous and successful endeavours to improve this wondrous machine. As usual in the mechanical world, success gradually incited invention, and this evolved machine-tools. Nasmyth's construction of the steam-hammer arose from the necessity of forging an unusually large shaft of iron. The impossibility of guiding with accuracy a hand-turning tool, led to the formation of that invaluable adjunct to the lathe—the slide-rest; and the vibration of a bar of iron, while being turned in a single lathe incited Whitworth to the devising a duplex instrument. Numerous instances of a similar nature might be adduced, and those who are familiar with the interior arrangements of a manufacturing establishment, are fully conversant with the constantly being exercised to overcome incidental difficulties. In reality machine-tools are now the means by which almost all improvements are effected in machinery, and thus indirectly they minister largely to the progress of the arts and sciences.

It would be scarcely just to omit saying that in the matter of machine-tools, the foreign exhibitors have made a display in 1862 far in advance of that made by them in 1861; but then in the last-named year they cut a very sorry figure.

#### BUILDING OPERATIONS IN PARIS.

(From our Paris Correspondent.)

THE impression forced upon me by the vast architectural works of the last few years in Paris is that, with every drawback which criticism can suggest, the architects of France are on the way to develop a truly national school of architecture, which will not be a mere *réchauffé* of ancient (taller art of any former period, but a style which, arising from the development of the French-Italian manner of the sixteenth century, will yet possess sufficient originality, both in principle and detail, to give it a claim to almost entire originality. The developments of the architectural feeling of the Renaissance and immediately succeeding periods are, though perfectly legitimate, yet so free and striking, that they have nothing of the disappointing effect of those slavish reproduction of models belonging to former periods, which may be the skill of the artist, but the style is always inferior to the originals. They are not, and necessarily cannot be, or appear to be, instinct with the artistic life of an epoch. The very best of such reproductions are mere shams; they are, as it were, wine from a bottle that has been opened long ago; there is no effervescence about them—no sparkle of real vitality. But when a former style, a suitable and national one, is taken up as the dress of a new one, merely as a centre from which appropriate variations, dictated by the spirit of the time, are to radiate, exhibiting palpable signs of a new life at every point of the circle of its operations, then a legitimate use is made of the models, spared by time, which the genius of our artistic forefathers has bequeathed to us.

The additions to the Louvre have been devised and executed, to a great extent, in this spirit, and with all flaws and defects, which are many, they must be, on the whole, regarded as the most successful and pleasing examples of modern architecture. But it is in the street architecture of Paris, that the most originality of a genuine kind has been exhibited. In great works immediately under the control of the Government, such as the completion of the Rue de Rivoli, &c., the principle of uniformity, and a strictly military *alignement*, have shackled the invention of the architect, even in his treatment of merely decorative features; but where no such impediments have stood in the way of the artist, true architectural genius has sprung up, that in many respects far behind the most graceful structures, even of the graceful age of Francis I.

There is not, at the present moment, any architectural work of strikingly novel character in progress, and yet much is going on well worthy of a passing record. Those acquainted with Paris and its public establishments, cannot fail to remember the situation of the "Gare des Messageries de Paris," in the most crowded part of the Rue St. Martin. The establishment is now devoted to the protection and encouragement of improvements in various branches of manufacture, and to the preservation of models of new machinery, &c., &c., for which protective *brevets* have been granted. The establishment has long occupied the remains of the extensive buildings of the ancient Priory of St. Martin, suppressed at the Revolution. During this present regime, many improvements have taken place in the adaptation of the building to its present purpose. The entrance, however, was obstructed by several houses, which had been built by the monks along their frontage to the Rue St. Martin, with the view of increasing their already plentiful revenues, and in that commanding situation the project no doubt

answered the expectations of the worthy speculators. These houses were built in the years 1713 and 1714, so that their existence of but a single century seems but a short one for such solid structures.

The space gained by the removal of these houses, not only throws open the present facade of the main building, but affords facilities for the erection of a new gallery adjoining the library, which is the ancient refectory of the Priory. During the removal of the obstructive buildings, the last finishing touches are being given to the exterior of the pavilion that forms the *cour*, as it is termed by French architects, which encloses the principal staircase. Upon the interior of this structure architectural ornament is being lavished with unparing hand, the decorations having now been nearly four years in progress, and they are not yet completed.

During the present series of alterations and additions, restorations also are taking place. The apse of the ancient church of the Priory, a portion of the original building still remaining, and which belongs to the architecture of the eleventh century, is undergoing through repair and restoration, as are a portion of the ancient embattled walls, and one of the mural towers.

From the mass of modern buildings which occupy a great portion of the ancient quadrangle of the monastic building, a vast and lofty chimney has been rapidly rising, the daily progress of which has raised the curiosity of the neighbourhood. Some hinted at the secret structure of vast furnaces, in which iron ore, procured from England at the reduced duties of the new commercial treaty, was to be smelted for the private use of the government, or of some influential official, and many other explanations, equally extravagant, the object of the growth of the structure being, as it was said, Rue St. Martin. The structure in question is, however, nothing more than a ventilator for the lecture rooms, on the principle recently adopted, and found so effectual, in the *Nouveau Cirque*, and in the *Théâtre Lyrique*.

Speaking of theatres, I may mention that the facade of the new theatre in the Rue du Caire is just completed, the theatre being intended to replace the old *Gaité*. I do not admire the architectural design, designed to tempt me to give you a detailed description of its leading features, though the design has yet a certain character that is not without its promptings and suggestions to a careful student, who is determined to learn something, even from an inferior model.

In other parts of Paris, works of various kinds are going on, the present government being always on the look out for means of employment to the teeming and restless population of the Faubourg St. Antoine, and other quarters, where it is deemed that want of employment is generally the precursor of political agitation. It is true that there is not another Rue de Rivoli to finish, nor, precisely, another Boulevard Sebastopol in process of creation, nor yet another Louvre, employing its thousands in a grand work of completion; but architectural works of more or less importance are nevertheless going on. On one side some destruction of the old is safe, to make room for the new, or the other fresh structures are as readily rising.

The destruction of old buildings in the more crowded parts of Paris, and the erection of superior and more spacious houses in their place, is not only a great improvement, architecturally speaking, but will tend greatly to render the sanitary state of the great city more satisfactory; yet the removal of the more humble dwellings to make room for commodious palaces, is raising just such a question as that which is agitated in London, by the removal of a similar character. Where is the working population to go? Where are the small masters to find houses or lodgings, if you use up all the ground for dwellings only suited to the wealthy?

The last stones of the Pont de Louis Philippe are being torn from their concrete foundation, where one might have thought them safely embedded in the soil, some generations to come, and in a few years not a vestige will remain of a structure that was meant to be a dynamic monument, as well as a public convenience. Close at hand, a new stone bridge has suddenly arisen; which is just receiving its completing features, in the form of the handsome *accoucheur*, which is now being placed above the handsome balustrade; while, not far distant, a new iron bridge has shot across the Seine, to afford almost superfluous convenience to a certain small section of the Parisian population.

The eastern point of the island of Notre Dame is the site selected for the new *morgue*, the foundations of which, below the bed of the river, have been, after much labour, made solid and secure. The works have been carried on within a vast coffer-dam as for the piers of a bridge, the first stones being laid upon a flooring of enormous tiles. With a greater expanse of water surrounding the works, one might have fancied in an effective manner, a Venetian palace was being laid in the treacherous sands of the Lagoon. Notwithstanding the occurrence of many difficulties, the foundations are now safely completed, and the walls of the new *morgue* have risen to about the level of the river; the works being evidently destined to proceed with rapidity. I have not seen the design; but it will, in all probability, be highly characteristic, as the subject is one which comes peculiarly within the scope of genius, given generally to the French architect.

Preparations for another new Boulevard are proceeding energetically to the south of the *Hôpital des Invalides*, which, though not planned upon the same scale of magnificence as those which prepared the way for the street palaces of the Boulevard Sebastopol, are yet destined to give rise to building operations of a very important class; for the development of suitable sites will doubtless lead to the erection of residences of superior character in this quarter of Paris, which must be far removed from the influence of modern innovation on an extensive scale. These, with the continued development of ordinary street architecture, in more and more elaborate forms, afford plenty of food for observation to a travelling architect. In every thoroughfare of importance that has not been already rebuilt within

the last ten or twelve years, the crash of old houses in process of demolition is heard; and the bustle attending the erection of new and more splendid structures, intended to fill their places, is everywhere going on. French architecture of the day are not represented at all. I propose, therefore, on a future occasion to attempt a description of some of the more striking architectural works which have been completed within the last few years in Paris and other continental cities.

#### A HOUSE FOR THE SUBURBS.\*

WITHOUT springing to the especial attention of architects, the second edition of this work, which differs widely from the first, takes a position not previously occupied, and affords in a popular way a large amount of information. An architect acquainted with the current desiderata of house building, and mingling in suburban society, is just the man to throw out some useful hints, unclogged by the formality that often repels the non-professional. The subject, says Mr. Morris, "has not appeared to demand extreme precision, but to admit of adequate representation by the characterising lines, articulating dots, and supporting touches of a sketch, rather than to call for the elaboration of a picture."

A glance at the traditional state of the metropolis accounts for the daily migration of Londoners and the growth of populous suburbs, while the characteristics of soil, climate, and scenery are noticed with references to the selection of proper localities. "Nothing," it is said, "can be more conducive to the architect's success than a well chosen position for his work, and no part of his duty more urgently demands his careful study, though it not unfrequently happens that all choice on the subject is precluded by some step taken under the erroneous impression that nothing but the building would have any interest for him, and in utter unconsciousness of the artistic advantages pertaining to one spot over another."

The economy of space is touched upon and exemplified by the treatment of a plot containing half an acre at Wimbledon Park. As to price, upon which some information is also given, it ranges from £50 an acre at the extremes of the home counties to something like a million in the heart of the city: "An enormous realisation is therefore open to the Bank of England, whenever it may think fit to consolidate its struggling offices into a grand convenient edifice, and appropriate the superfluous part of the site to a new Stock Exchange and other monetary establishments, with a dividing thoroughfare from Threadneedle Street to Lothbury."

As to the consideration of plans adapted to the immediate purposes and habits of the present day. "No architectural quality of a dwelling commences so extensively to the satisfaction and comfort of its occupants as a well contrived plan, and nothing is more inconvenient in result than ill considered or misconceived arrangements. I have been painfully conscious of this in making some alterations to an ancestral edifice, where the whole arrangement is left handed, the best and warmer aspects being occupied by closets and stables, while the family rooms are confined to the biting north and east, a defect that can only be alleviated at considerable cost and never entirely overcome."

We are shown a pair of semi-detached houses, which Mr. Morris defends against the imputation of Cockneyism.

Next there is a square-looking Italian house with conservatory erected near Blackheath, on a site containing only a quarter of an acre. There are on the "compact" plan, with offices in the basement; but the next in order, the

"Glebe house" (see illustration), has the offices extended on the ground level as is usual in the country. Mr. Morris gives some particulars of parsonages built in various parts of England. "but it is necessary to say that as the conditions and interests of clerical incumbency differ from those of ordinary proprietorship, the parsonage scarcely affords to the skill of the architect that full opportunity for contrasting effect with cost, which is so welcome under freer circumstances, and so rapid is the transition of architectural sentiment, that it would be almost to speak of almost any houses, though but a few years old, in any other respect than as grounds of experience and criterions of expense."

These minor examples in the book have few or no outbuildings, but the principal design has all the offices required in a complete establishment of moderate extent, including the laundry court, the stable-yard, and the conservatory. The description or discussion of this plan affords occasion for remarks upon style, construction, materials, and cost, enabling the author to scatter with a liberal hand hints and suggestions in favour of elegance, health, and general convenience.

#### MR. ASHPITEL ON ARCHITECTURAL DRAWINGS AT WINDSOR CASTLE.\*

(Concluded from our last.)

AMONG the sketches of Muzio Oddi is one entitled "Façade of the Sanctuary towards the Church." We have no clue to the period, but might infer it was made after his liberation. A rough sketch (p. 21) is given of a tablet to the memory of his father. The inscription is—"D. O. M. to Cyprianus

Oddi, who when alive was strenuous and upright under every fortune. Mutius and Matteo placed this as an act of piety to their father." Many of the drawings which now follow are more nearly executed, and many have dimensions figured on them, which would lead one to suppose they had actually been executed. They are not only for churches, campanile, and other large constructions, but even for organ cases, brackets, and other ornaments,

and one seems a design for a picture-frame. A large number of them are for doorways, entrance gates, and large windows, and, I think, we must agree, display much ingenuity and boldness of handling.

The second volume commences with plans which seem to have been parts of conventual buildings. Among them is a very curious sketch of the inside of a dome looking upwards, and showing a construction of scaffolding, cords, &c., probably intended, as appears by a section at page 22, to enable the builders to fix the tambour at the top. At page 19, we have an elaborate plan of a large palace, fortified at each angle with a bastion with embrasure for twelve guns each. It is in some degree resembles Caprarola in arrangement; but the latter is a polygon in plan, while this is square. This is followed by the plans of the *caccinotti* of a large town strongly fortified, with the sections, or, to use the expression of the old engineers, "profiles," of the ramparts. Unfortunately there is no description by which it may be identified. We have three plans, &c., for conventual buildings, one of which is entitled "A monastery for the nuns of Amore," and shows our author continued his avocations as an architect even while occupied in military pursuits. We then have the plan of a large amphitheatre, on the back of which are some curious moral reflections on beauty and love. One of them is headed by a reflection, expressed no doubt many thousand times before and since his time, "Amore tiranno." Whether the remembrance of the Grand Duchess gave birth to this expression, we know not. We then have the design for a large window, which, from the inscription, we may suppose to have been put up at Milan in the dome. Under this, it appears, an altar was intended to stand, which he says was to be conformable to the Altar of St. Joseph. The whole is of marble, and seems of very large size. It would be tedious minutely to describe every item before us. Suffice it to say, we have designs for a chapel, on the back of one of which is written, "Plans of the Chapel of the Pope in the Church of



\* A House for the Suburbs, Socially and Architecturally Sketched. By Thomas Morris. M.T.B.A. With illustrative designs. Second Edition. London: Simpkin, Marshall, & Co.

\* Paper read by Mr. Ashpitel before the Royal Institute of British Architects.





In answer to a question from the CHAIRMAN, Mr. ASHMETT said he had seen and examined the whole of the thirty-eight volumes to which he had referred; and the four which were brought to the Institute were not brought there because they were the most interesting of the collection.

Mr. WOODWARD thought it best to have the four volumes brought first, as he was responsible for the safety of the whole. He had commenced photographing all the most important drawings in the library at Windsor; and if those which had been exhibited that evening should be thought worthy of circulation in that form to the architectural world, he should be extremely happy to take them at an earlier period than he otherwise would have done.

The CHAIRMAN hoped to see Mr. Woodward some other evening, with two or three more volumes of the collection.

Mr. WOODWARD: Most assuredly I shall do so, with much pleasure.

The CHAIRMAN proposed grateful thanks to Her Majesty the Queen, for her permission to exhibit the books shown that evening; thanks to Mr. ASHMETT, the Royal Librarian at Windsor; and thanks to Mr. Aspley, for his extremely amusing and highly interesting lecture.—Carried by acclamation.

Mr. ASHMETT moved a vote of thanks to Mr. Panizi, the chief librarian, and the other officers of the British Museum, for their uniform kind and courteous treatment to architects.—Mr. WYATT PAPWORTH seconded the motion.—Carried unanimously.

Vote of Thanks.—Mr. E. W. Pugin, of Buckingham Street, Adelphi, was elected a Fellow.

The meeting then broke up.

### THE TURKISH BATHS, WESTMINSTER.

SINCE the year 1856, when we were told that Englishmen never knew what it was to experience the luxury of a really good bath, there have been several buildings erected, principally in Ireland, to extend the benefits of that great sanitary institution, known by the name of the Turkish Bath. The movement is mainly due to Dr. Barker, of St. Anne's Hill, Blarney, Cork, by whom it was first practically introduced into the United Kingdom. The Oriental Baths in Victoria Street, Westminster, owe their origin to a number of Irish gentlemen, who formed themselves into a company under the Limited Liability Act; and no better proof can be had of their hearty spirit in the work, than in the fact that they have spent over £25,000 upon its construction.

This handsome building occupies an area of 15,000 sq. ft., with a frontage of 150 ft. The principal entrance consists of a segmental portico, of the Corinthian order, and leads to the alcove or office hall, where the tickets to the gentlemen's baths are issued. The main hall stands beneath a dome 30 ft. in diameter, placed at an elevation of 74 ft. In the centre of this hall, which has, from its rich stucco-work, a very effective appearance, a large fountain is erected, in purely Turkish style, around which is placed an octagonal metal stand for the reception of flowers. The floor of this hall is paved with marble, and leads to the principal staircase, which is executed in terra cotta, beautifully encaused. At the middle landing of the staircase, are the apartments of the governors, which command an extensive view of the interior of the building. The second flight at the gallery is supported by handsome scagliola Corinthian columns, the capitals and bases of which are also modelled in terra cotta. This gallery conducts to the several divans of the first-class gent-son's baths, commodiously and elegantly furnished with ottomans and lounges. These rooms measure 40 ft. by 36 ft., and are divided into compartments by a colonnade of scagliola pillars. A handsome iron staircase leads to the attics, which comprise private dressing-stall saloons, each measuring 40 ft. by 24 ft., which are comfortably fitted up with separate dressing-places. Between these two saloons will be found a large refreshment-room. The ceilings of the beautiful hot rooms are lighted and decorated by means of stained-glass plates of different sizes in primitive colours. The ornamental stucco and terra cotta work in these apartments is very elaborate and effective; the centre screens, diaper walls, and arches leading to the fountain or "douching-rooms" are all finished in the terra cotta which is so abundant throughout the building. The couches and floors are composed of Carrara marble and Minton's pavement, the rooms being so arranged as to accommodate public or private bathers. Descending farther from these chambers by the main staircase to the hall, will be found more spacious divans and hot rooms; the ceilings of the latter are composed of groined arches; and light is obtained through the coloured-glass windows in the gable walls.

It will be almost needless to add, that the above description, that the accommodation given to the bathers is everything that can be desired. The lavatories are elegantly ornamented with marble fountains, and contain materials for "douches" of any required temperature. The ladies' baths are situated at the left-hand side, the entrance being through a side door in the main front, which, however, is distinct from the main porch. A small door at the right-hand entrance of the building leads to a novel acquisition in the form of horse baths. There are also landings, drying-rooms, water-works, and basement stories, which contain furnace chambers, coal and coke stores, and the attendants' rooms. We perceive there are additions being made to the lack of the building; and the tasteful, yet neat, iron railings in front have only recently been laid down.

### ST. SEPULCHRE'S CHURCH, NORTHAMPTON.

THE Church of the Holy Sepulchre at Northampton, built in the time of the Crusaders, has recently been restored under the direction of G. G.

Scott, Esq., R.A. This church is one of the four remaining round churches in this country. The whole of the external restoration has been completed, but the want of funds prevents the committee from proceeding with the internal fittings.

The church consists of the original Norman Round Church, founded about A.D. 1090, the Norman chancel having many centuries ago disappeared, and been substituted by an early decorated chancel with two aisles. This portion having fallen into a dilapidated state, and been much mutilated by successive alterations, and the Round being no longer suitable or large enough for the populous parish to which the church gives its name, it was determined that the chancel should, with its aisle, be extended eastward; and discoveries made during excavations show that it now occupies its original site; the late chancel and its aisles thus becoming the nave for the use of the congregation, together with an additional aisle on the north side destroyed in very ancient times, now rebuilt upon the old foundations, by funds raised by a committee of ladies of the county and town of Northampton. This, after many years' anxious labour on the part of those interested in the work, been so far carried out, that the flooring and fittings now only remain to be executed.

The new portions are constructed of the red sandstone which is found in the county, the dressings being of red and Bath stone varied. The three chancel windows have detached shafts of red and green serpentine, with rich-crozier caps, and the pillars of the chancel arches have also polished granite and Anglian marble shafts. The nave and chancel aisle will be paved with encaustic tiles, the designs for which have been drawn by the Rev. Lord Alwyne Compton, a nobleman who has taken a very active interest in the restoration. The roof of the aisle is constructed of oak, pine, and mahogany, in rich ornamental patterns, Mr. John Watkins, of Northampton, being the contractor for this portion. The carving, the cost of which is provided for by special donations, is being executed by Mr. Farner, of London. The Round part will, as soon as the restored portion is completed, be cleared of its pews and galleries, and its restoration conducted by a committee of friends of the late Marquis of Northampton, the late President of the Royal Society, as a memorial to him, when it will be preserved as a vestibule or baptistry.

In the early part of the spring, Miss Lind-Gubbehlmitz gave her valuable services to sing at an oratorio for the benefit of this church, which realised £490 net profit. The total cost is estimated at about £8,000, of which we understand £1,500 remains to be raised.

### ON THE FORMATION OF A NATIONAL MUSEUM OF ARCHITECTURE, VIEWED IN CONNECTION WITH ITS BEARINGS UPON MEDIEVAL ART.\*

(Continued from page 446.)

IN illustrating Architecture through the medium of a Museum, I should lay down as a primary and fundamental rule, that it must, mainly, and on strict principle be effected by representation, rather than by collecting the actual works of art themselves. There are exceptions to this, but in case of each of such exceptions the onus lies upon the collector of proving the propriety and lawfulness of his departure from the rule, and of clearing himself of the charge of encouraging spoliation. Architectural objects belong to their own sites, and even when severed from their position in the building of which they formed parts, they ought, as a rule, to be preserved, either on its site or in its vicinity, that their local associations may not be lost.

I call special attention to this, because I fear that a feeling exists in the minds of those who direct our national collections that plaster casts are worthless and contemptible objects, and are almost unworthy of admission; whereas, on the contrary, it is the actual objects of art that demand apology, and I will boldly say that any actual architectural objects in our own Museum will gladly be returned to more local habitations, if such can be shown to exist; and at the risk of being pronounced a barbarian by the curators of the British Museum, I would almost go so far as to say, that I should feel a satisfaction in learning that the Elgin Marbles were to be restored to their place in the Parthenon, and that our great Museum should be enriched with casts of those glorious master-pieces of art (though, perhaps, made in some material more durable than plaster).

I will roughly classify the objects to be illustrated as follows:—

I. Actual Architecture, by which I specially mean stonework, whether in the form of mouldings, or other mechanically formed details, or of architectural sculpture.

II. Sculpture, forming a part of or intended expressly as an accompaniment of architecture.

III. Woodwork, forming a part of or connected with architecture.

IV. Metal work belonging to architecture.

V. Architectural decorations, whether inlaid, mosaic work, painting, or other cognate form of art.

VI. Painted glass.

VII. Pavements, whether of tile, mosaic-work, or otherwise.

VIII. Monumental slabs, whether as brasses, incised, sculptured, or inlaid stones.

IX. Miscellaneous objects. Each of these classes includes all its chronological and national varieties.

On the first class (Actual Architecture), I will first remark that it is not,

\* Paper read by Mr. GEORGE GILBERT SCOTT, R.A., at the Architectural Museum, South Kensington.

as a general rule, necessary to go very far in illustrating its more mechanical forms, such as mouldings, &c., though a collection of them belonging to buildings of different dates would be highly useful. Generally, however, the architect may study these sufficiently from the actual buildings, and their sections can more accurately be represented on paper than in plaster. It is, however, of the utmost importance to obtain casts of them wherever they come in contact with sculpture or foliage, and where they are enriched in any degree by carving. Thus, in a capital, the abacus, the shaft, the abacus, a portion of the shaft, and perhaps a short length of the arch mouldings which it sustains, should in many cases be cast with it, so as to illustrate it as a whole, and that the art-workman or student may see the carved work in connection with its natural accompaniments. Again, where certain orders or parts of arch mouldings are enriched with carving or sculpture, those parts should be represented as much as possible, the grouping of the whole should be represented, and the mutual influence of the plainer and more ornate parts one upon another may be illustrated.

I have thought it necessary to premise with what is properly only a matter of detail, by way of limiting the vastness of the field which is open to us; for, so endless is the variety of our style and the richness of its resources, that a collection which would be worthily illustrate it would occupy a somewhat inconveniently large space. In forming, however, an architectural museum on a scale worthy of being called national, great space is an absolute necessity, and it is of little use to make the attempt without boldly facing this primary fact.

It is known only to those who have for years been in the habit of visiting and diligently studying and sketching from ancient buildings, what an inexhaustible fund of ever-varying art we have to draw upon, and how, though it is not by any means easy to obtain the specimens most needed. It is, in fact, in many cases only through the intervention of the architects engaged in the repairs, and only when repairs are going on and scaffolding erected, that the most valuable works in our great buildings can be reached, while in buildings of a humble class it is architects alone who know where such works of art are to be met with.

One great distinction between a national museum, for which considerable funds could be procured, and a private one, like our own, is, that much larger objects can be obtained. It is often most desirable to possess casts of entire doorways, or their sculptured tympana, tombs, revetments, &c., so as to show the work as a whole, instead of in a number of small and disjointed portions. A private society like our own can very rarely do this, but in a museum supported by public funds it would readily become practicable, indeed the largest of such objects would not perhaps cost more than is sometimes expended on a single specimen of majolica.

It is not, however, our own architecture alone which must be illustrated. The contemporary art of other countries has equal demands upon us; nay, in one sense, greater, inasmuch as if our art-workmen find it difficult to visit our own architectural monuments, they will find it impossible to visit those of foreign countries.

The Gothic architecture of France is the elder sister of our own; and, if not more beautiful, possesses beauties and varied expressions of its own which must ever secure to it the earnest love and devoted admiration of every student of mediæval art. Our own architecture can hardly be correctly understood without a knowledge of that of France. Their origin, development, and history, are so linked and entwined together, that without the knowledge of both, they cannot be fairly studied or appreciated. France, too, took the first place in art, as in arms, amongst the nations of mediæval Europe. Her art productions may, therefore, be viewed as the *normal types* of Gothic architecture, and, as such, they claim a full illustration in a museum of the architecture of those periods, and there is a boldness and nobility of treatment about them which especially commend them to the most diligent study of the architectural student and art-workman.

French architecture must therefore, in such a museum, be illustrated as fully and as voluminously as our own, nor can I conceive of any field of illustration so glorious or so eminently useful as this.

The mediæval architecture of Germany and of Italy have claims only second to those of France. Indeed, time would fail, to enumerate in the roughest manner the numerous beauties which should be included in such a museum. They must illustrate each element of architectural ornamentation and detail throughout its chronological course, and through the several countries where our architecture prevailed; giving, however, a due preponderance to the best periods, the best examples, and the countries where the art possessed the finest characteristics.

The period claiming the greatest amount of illustration, at least in northern Europe, may be regarded as embracing two centuries, viz. the latter half of the thirteenth, and a moiety of the preceding and succeeding centuries—that is to say, A.D. 1150 to 1350. Earlier and later periods must be fairly represented, but this interval contains the real vigor, the pith and marrow of mediæval art. Mediæval architecture demands, however, for its elucidation, that certain styles which preceded it—and from which it drew its first inspiration—should also be duly illustrated. I refer to the Byzantine and the Italian Romanesque; each including the branches by which it was led through other countries, and especially through Germany and France, with the changes it underwent by the way. I have taken some pains in my lectures delivered at the Royal Academy, in 1858, to show how direct was the influence of Byzantine art upon the architecture of France in the twelfth century. The foliage and the figure carving, so well known in the earliest French carved works of the latter half of that century, are, for the most part, directly derived from Byzantine carving and drawing, with a certain degree of influence from Italy, which was her-

self drawing freely upon Byzantine art. It is clear, therefore, that to illustrate mediæval architecture properly, we must possess ample specimens of those, its parent styles.

The classification of specimens may be divided into those which are elementary, and those which are in a less and in a greater degree combined into complete and applied architectural features. Thus, we must illustrate in its most abstract form the history and progress of architectural foliage, ornamentation; showing how it had been taken, during the dark ages, from that strange form which is sometimes designated as Italic (though whence derived it is difficult to say); how this was long used side by side with foliage derived from debased classic remains; how a distinctly Byzantine tone was imported into the art during the twelfth century, both in France and Germany; how this, in process of time, developed itself into a new and original style, such as we find in France, England, and Germany, in the earlier years of the thirteenth century; the noblest and the most perfect conventional and architectonic ornamentation which has, perhaps, ever been generated; how, by working this gradually up towards nature, the artists at length fell luckily implicitly upon nature herself, first using natural foliage of the most exquisite kind imaginable, side by side with the architectonic, and at length to its exclusion; and, at length, a new and superior conventionalism supplanted it—a conventionalism of departure from, as the other had been one of approach to, nature.

In the same manner we must illustrate the accompanying progress in animal and figure sculpture: how the barbarism of the northern nations during the dark ages became gradually enlightened by an infusion of Byzantine art; how this art gradually softened down its rigid severity, and came to the study of the more graceful forms of the antique, and in the academic correctness, but full of noble sentiment and of high aspirations after artistic perfection,—unhappily not at that time fully realised, but which it is our place—would that it may be our lot—to carry forward to its legitimate results.

Then we must illustrate the history and use of these as applied to architectural features: we must show the historical progress of foliated capitals, in itself a wide subject of historical and artistic enquiry, and of study for our own actual use and instruction. We must, in the same way, show the history of foliated enrichments in mouldings, arches, cornices, and all architectural details to which it is applied; the development and changes in surface-ornament of all kinds, and of the union with all these of representations of animal and human life. Then, we must, in larger specimens, show these elementary details combined into greater architectural compositions, and united more directly with figure sculpture. To do this we want, as I have already stated, complete casts of entire doorways, or, where impracticably large, of portions of their arches, of (perhaps) their entire jambs, and their sculptured tympana, casts of celebrated tombs, of pulpits, of fonts, &c. Then, again, we want the history of niches and tabernacles work, itself a most fertile subject, and demanding casts often on a magnificent scale; we want the history of crockets, finials, foliated scrolls, &c., as a thousand other architectural elements, which it is impossible in such a paper as this to enumerate. The work before us is a truly glorious one, and it only requires to be taken up in a spirit worthy of its claims, to make the result in the highest degree noble and beneficial. I must, however, add one word: that casts alone will not do all which is wanted: they must be accompanied by photographs, and often by measured drawings.

I will only, however, under the head of actual architecture, mention one other class of objects which would demand house-room within its walls. I refer to those melancholy but invaluable relics of ancient art which exist in our ruined abbies, and to those in other buildings which are in danger of being destroyed by inevitable decay.

It is the *absolute duty* of an Art Department, whether or not they had complete control over the National Museum, to rescue these exquisite and valuable works from oblivion, by obtaining casts, photographs, and measured drawings, from them while they yet exist. Every winter abrades their ancient carved surfaces, and brings down, perhaps, larger portions of their sculptured foliage. Those who have been for many years in the habit of sketching from old buildings, are at every visit the progress of destruction which is ever going on, and which is so threatening to its destructive ravages. A few years more of delay, and these precious works of art will have perished. In the name, then, of art, of reason, and of patriotism, let us delay no longer, but at once obtain perfect representations of what we have left, by means of plaster, of photography, and of drawing, and enshrine them as the most precious relics to be for ever preserved in the archives of our national art. I will add here, however, one word of caution: let a handsome price be offered to any person who may be tempted to sell, before attempting to make casts of it, or we may destroy the original while obtaining the copy.

II. What I have said of architecture proper, applies equally to the second head—Sculpture forming a part of Architecture. I will therefore view this as included in the foregoing remarks, only adding, that a collection of the mediæval sculpture of the thirteenth and fourteenth centuries, of France, Germany, and Italy, would be an invaluable acquisition to a National Museum, indeed, would be an absolutely necessary portion of it.

III. *Architectural Woodwork*.—This being much scarcer than stone-work, especially that of the best dates, must be collected with great care. Let me, however, be always understood to mean casts, rather than the actual work, though when this has, unhappily, been severed from its proper position, it is better to preserve the conservation in place, than to have the original work.

Of woodwork of the fifteenth century, and later, there is a large supply of casts in the hands of the Government, which were prepared

to assist the carvers employed in the Houses of Parliament. This, however, is by no means the best period. We used woodwork of the thirteenth and fourteenth centuries. This is, in England, somewhat scarce, and wherever it exists, casts should be made from it. Among foreign countries, Germany, perhaps, could be a source of supply. The stalls at Cologne, not only in the cathedral, but in many of the churches; the wonderful doors of St. Mary's of the Capitol; the stalls, &c., at many churches throughout the length and breadth of the country, should find their representatives in such a museum. The elementary classes of woodwork, and the progressive illustration of their histories, would assume a course quite parallel to what I have alluded to in speaking of stone work, and it is needless to recapitulate them. The objects, however, themselves, and the art expended upon them, differ considerably from the previous class, and the objects are comparatively so scarce, that there is much more difficulty in obtaining them; and it is only by the help of those who are in the constant habit of searching out objects of study in the most out-of-the-way places that they can be found out. Every year, too, they are getting more and more scarce. Even the few early remains of woodwork in our old cathedrals are diminishing from the carelessness and want of knowledge of their guardians; let no time, then, be lost in searching out and obtaining perfect representations of those which remain, whether at home or abroad.

We now come to the fourth Class;—*Architectural Metal-work.*

If woodwork of the best sort is so scarce, how much more so is metal-work, and how indescribably important is it that we should use our utmost exertions to collect and to preserve representations of it where it would be improper or impracticable to obtain the reality of what yet remains to us! Here, the departments of art are, as regards the smaller and more movable classes of objects, doing very great things for us; indeed, we cannot be too grateful for the splendid collection of specimens of the kind and kindred branches of art which is being formed within these walls, nor can we be too assiduous in availing ourselves of the facilities for study which this afforded us. These, however, can scarcely for the most part be classed under the head of architectural metal-work, though they bear very directly upon it; what I refer to is chiefly of a larger description, such as screw-work, hinges, brass fonts, and letters, reliquaries, corbels, gates, &c., and the other forms of metal-work brought more immediately into contact with architecture. These, like all other architectural objects, are chiefly to be represented by casts and drawings, and these should be, from time to time, made from all the best specimens which remain in this country, and all which we can gain access to abroad. We long ago contemplated obtaining a cast from the truly magnificent brass font and its cover at Hildesheim, and the funds for this have been raised. There are a great number of such fonts, nearly equally worthy of being represented in our museum, as well as innumerable other objects of all kinds and descriptions. Among others I will mention, though a late example, the exquisite brass genealogical tree which clothes the tomb of Mary of Burgundy at Bruges; and this leads me to call attention to the numerous brass effigies and entire monuments which exist, and some of which could be well represented by casts. I have already mentioned that I will also call attention to the most magnificent of all classes of metal-work, the gorgeous shrines of the twelfth and thirteenth centuries. There are some invaluable specimens of the same exquisite workmanship in the museums of the department, and it is possible that a few more may by chance be obtained. The greatest and most glorious specimens, however, of this wondrous art, must ever remain where they now are, and where for the most part they have always been; and can there be only rarely visited and studied. What I wish to press upon the attention of the department of art is the necessity of obtaining perfect full-sized representations of these most sumptuous works. Among the many which exist I will call especial attention to those of the three kings at Cologne, of Notre Dame at Aix la Chapelle, and of St. Elizabeth at Marburg. These are absolute marvels of art, and should be represented by casts, and by perfect full-sized, and perfectly detailed drawings being made from them, accompanied by some more tangible representations of some of their parts.

But I must go on to my next head—Coloured Architectural Decorations. Here, again we have heartily to thank the Department for much which they have done, and which they are doing. They have begun, they have already collected many drawings of such decorations, with some of the originals. Mr. Octavius Hudson, of whose zeal, knowledge, and skill, I cannot speak too highly, has adopted the excellent practice of having casts made from the details of ancient buildings on which he is engaged, and making upon them fac-simile copies of the remains of colouring which he has found. This, if followed and extended, will supply a valuable illustration of decorative art, and I would urge the collection of full-sized drawings of all other kinds of decoration wherever they can be procured. Such remnants of old art are continually being destroyed; how easy would it be to perpetuate them by fac-simile drawings. And thus, of all the other classes of art I have enumerated, let us have coloured tracings of stained glass; not only of the most famous works, but of the fragmentary remains in village churches; let us have (as in fact we already have) a considerable extent) rubbings of brasses and incised stones; coloured rubbings of ornamental pavements, and perfect representations of all other branches of decorative art. I exhibit a fac-simile copy of a part of the ancient retabulum in Westminster Abbey, as an illustration of the kind of drawing I am recommending. Time will not allow me to go further than to say that a Museum thus constituted would be worthy of being called a "national museum," and it would be the greatest benefit which could be conferred upon our art, but would be no

more than the carrying out to its natural results of what the department have already commenced.

It may be feared by some, that such a collection would encourage slavish copying. My own experience has led to a contrary opinion. I have already somewhat said, so far from this being the case, the increased study of ancient examples leads the art-workman to a more enlarged and more reasoning appreciation of his art, gives him greater freedom in the exercise of it, and, above all, leads him to a more zealous and intelligent study of nature. I will only add two more suggestions. 1st. That as such a collection would not be made for a mere spectacle, but for actual use, it should not be deposited in vast and imposing halls and galleries, but should be so arranged as to give the student every possible facility for quietly studying any one department, which he might be pursuing without the distraction which the enormous multiplicity of the objects would otherwise occasion. In reading a book we should be sadly annoyed if we were obliged to see a number of its pages, or its illustrations, at once; and so it is with a museum; the student only wants to see the part to which his studies are directed. 2nd. I would suggest, as South Kensington is not a place very accessible to the student or the art-workman, that a system be organised of lending out objects to particular districts, in which rooms for the studies of art-workmen shall be opened, and that the specimens so lent shall be changed periodically (perhaps every month), and thus a constant and ever changing course of study facilitated.

I will conclude by suggesting some points for consideration as to how our great work can be carried on with the greatest possible advantage to the great cause we have in view.

There are two parties to this undertaking. The representatives of the demand and of the supply, and it can only be successfully carried out by their hearty and continued co-operation. The representative of the demand are the architects. It is not their personal interests in the least degree which are at stake, for buildings would be erected and architects employed and paid just the same, whether the arts subsidiary to architecture are cultivated or neglected; nor can the demand be said to come mainly from the art-workman himself, though it does more nearly affect his personal interests. Those among them whose appreciative feelings of art have been aroused to activity, join heartily and earnestly in the demand; but, as in the case of religion, those who most need instruction are the least alive to their necessities; and among architects themselves, it is those who most keenly appreciate the nobleness of their art, and have best cultivated it as a *fine art*, who most strongly feel the necessity for aiding the art-workman, on whom depends the realisation of the more artistic portions of their designs. Not only, however, are the architects the best among them—the representative of the demand, but they are also the parties who best—I might almost say, who *alone*—understand what is the nature of that demand; who know, from their daily experience, what are the objects necessary to meet it; and who, from their own travels, their own studies, and from the contact in which their practice places them with ancient buildings, know, also, whence and how those objects can be supplied. I should almost say, therefore, that the aid of the architects most conversant with the subject is essential to the success of the effort; and when we add to this, that those architects have already, by their own individual exertions and of their own free motion and sense of the necessity, most efficiently launched the work and founded an Architectural Museum which must be the nucleus or the model of whatever is effected, the case is rendered still more obvious.

The representatives of the supply are the Government Department of Art. To them has been committed that great cause, the promotion of applied art in this country.

The Museum of Objects of Art which they are forming, mast, of necessity, be of the greatest benefit to this object. It brings within the reach of the manufacturing art-workman the finest specimens of the work of his countrymen, and thus has helped to gain access to. What we ask of them, then, is to aid us and work with us in doing the same for the architectural art-workman, who equally needs, and equally deserves, their aid.

If they will not do so, or if in doing so they refuse the aid and advice of those who alone understand what is needed, the world and posterity will know on whose shoulders the onus will lie. If, on the other hand, they appreciate and acknowledge this, perhaps the highest of their duties, they will merit the eternal gratitude of every lover of art; and I am sure that I utter the feelings of my brother architects, when I say that we are prepared to allocate our self-imposed task in their favour, and to unite with them heart and soul, and without jealousy or rivalry, in carrying out the most noble and most useful work.

It is exact regulation and order which this united action will be best effected by, and I have attempted to define. "Where there is a will, there is a way," and I content myself with asserting that, on our part, at least, there is a hearty good will, and that I see no difficulty whatever as to the way.

#### LEVIATHAN ESTABLISHMENT AT SYDNEY.

PROBABLY one of the largest furnishing establishments out of England is that which has recently been erected at the junction of King Street and Castlereagh Street, Sydney. The premises in question comprise, with adjoining timber yards, an area of 42,370 square feet. The basement and an acre of ground is occupied for business purposes. On the basement there are three staircases, with saw-pits, turners' shops, show-rooms, and stores for floor-cloth, besides painters' and decorators' workshops.

stables, &c. It is intended to erect large steam saw-mills for the purpose of cutting up the timber used in the manufacture of furniture. The principal show-room is on the ground floor, the entrance to which is from Castlewood Street, and its length is 266 ft. with an average width of 30 ft. This spacious apartment is filled with every description of cabinet work and upholstery, decorative painting, carvings, pianofortes, chimney-glasses, chandeliers, Gothic church furniture, altar chairs, &c. &c., imported principally from England, France, and Germany. The first-floor is fitted up also with show-rooms, which contain wood and metallic bedsteads, bedding, and every variety of bedroom and other furniture. Adjacent to the show-rooms are the spacious workshops, in which some sixty hands are constantly employed. Among these are cabinet makers, turners, French polishers, and other artisans occupied in the various branches of furniture manufacturing.

Mr. Lenehan, the proprietor, contemplates the erection of a handsome entrance to his show-rooms from King Street, and Messrs. Burnett and Co., of Deptford, have been applied to for an estimate for the construction of a very elegant shop front fitted with their patent iron shutters to protect the plate-glass windows, which are to be formed of sheets 12 ft. by 7 ft.

Notwithstanding the large space at present occupied as show-rooms, these are frequently so crowded with purchasers and lookers-on, that Mr. Lenehan intends to cover in one of the adjoining yards with an iron and glass roof similar to those of some of the railway stations in England. When this shall have been completed, it will form the largest hall in any of the colonies. Its dimensions will be 200 ft. in length, 50 ft. in width, and 30 ft. in height. A gallery, supported by iron columns, will run round the sides and ends of the interior.

#### ITALIAN SCULPTURE OF THE MIDDLE AGES.\*

APPROPRIATELY bound in vellumised white cloth and gold, and admirably printed and illustrated, Mr. Robinson, at the instance of the Science and Art Department of the Committee of Council on Education, has furnished the public with a catalogue of the works of Art at the South Kensington Museum comprised in the section to which the title of the volume refers. Without tracing, as we are almost tempted to trace, the history of sculpture from those early and obscure periods of time, when the imitative facilities of man first prompted him to copy in plastic materials the forms and shapes of animate and inanimate objects around him, we may at once come to the era in which the revival of the glorious art took place in Italy. The word "revival" betokens clearly enough the fact, that sculpture had suffered, from various causes, a declension and decay. This was so indeed with the Fine Arts generally. Efforts had been made, it is true, by Charlemagne and others, to arrest the downward progress of art, but individual efforts, unsupported by the taste or appreciation of the people generally, were not likely to succeed, and they did not. To the monks of the early Greek and Latin Churches is due the fact that art in those ages was kept in existence, and it is some satisfaction to be able to say, that if they purposely obscured the refulgent rays of pure religion with the murky clouds of superstition, they at least fanned the dying embers of the art fire, and thus saved it from extinction.

It is customary to date the revival of art in Italy at about the tenth or eleventh century. Flaxman, however, goes much further back. He dates it from the days of Constantine, and when Christianity became the religion of the Roman Empire. This is a question into which there is no need for us at present to enter, especially as the author of the work under review commences his labours at the thirteenth and fourteenth centuries of the Christian era.

It is unquestionable, as Mr. Robinson remarks, that during the middle ages all the western countries of Europe produced remarkable works of sculpture; but it was in Italy alone that the art attained to a perfection worthy of comparison with the antique, and in Italy alone could its monuments be thoroughly studied. In their nature, works of sculpture usually partake more or less of an architectural or monumental character, and happily a large proportion of the master-pieces of the great Italian sculptors still remain in the churches and public edifices, for which they were executed. To this day, none of the great continental museums or galleries have any systematic collections of *renaissance* sculptures. Even in Florence, which may be termed the Athens of the revival, only a few marbles and a more numerous collection of bronzes are to be found dispersed amidst the vast galleries of the Uffizi; whilst in England, until very recently, the art-student must have sought in vain for any examples of Italian sculptures. For this, and for other obvious reasons, during the last few years, efforts have been made under successive governments to secure for the South Kensington Museum such works of mediæval sculpture as were to be obtained, and especially in Italy. To this object we know that the late Prince Consort devoted much attention, and it is only just to Mr. Robinson to say, that to his enlightened research and active exertions this country is now in possession of a very considerable proportion of the specimens of Italian sculpture which had for years been accumulating in the hands of dealers and private possessors.

No doubt the cost of the collection, which has with so much assiduity and judgment been arranged at South Kensington, has been great; and some may take exception to this mode of expending the public money, but it can scarcely be doubted, we think, that the return will be more than commensurate.

\* Italian Sculpture of the Middle Ages, and Period of the Revival of Art. A Descriptive Catalogue of the Works, forming the above Section of the South Kensington Museum. By J. C. Robinson, F.R.S., &c. &c., Superintendent of the Art Collections of the South Kensington Museum. London: Chapman and Hall, 155 Piccadilly. 1862.

surate with the outlay. As this country has taken so permanently the lead of all others in what may be termed the useful arts, there is surely no good reason why it should not endeavour to rival, if not to excel, also in the domain of the Fine Arts. To accomplish this is a truly national and patriotic work, and the surest means for effecting it is to furnish students with the choicest models for examples. Prior to the assembling together of the magnificent pieces of sculpture in the Fine Art Section of the Museum at South Kensington, it was necessary for a would-be sculptor to make a tour through the cities and towns of Western Europe, in search of standards for imitation and subjects for study. This course was attended with a considerable sacrifice of money and time, and too often was impossible of accomplishment. In how many instances was it not the case with young, enthusiastic, and talented artists, that:

"Chill poverty repressed their noble rage,  
And froze the genial currents of their souls."

As it is, there is a fair field for exertion, and fair incentives are offered to



GEOMETRICAL ELEVATION OF THE TRIBUNE, OR CAPPELLA MAIORE, OF

SANTA CRISTINA, FLORENCE. This structure is a fine example of the cumulative ability. Why should we not hope, that from such a school pupils may arise whose fame will, in after times, equal that of the Pisani, Lecca della Robbia, Lorenzo Ghiberti, Michael Angelo, or Cellini?

It is time, however, that we referred more directly to the contents of the Fine Art Section of the South Kensington Museum, as represented by the catalogue which has induced the foregoing remarks. The foundation of the sculpture series of this section may be considered to have been laid by the

purchase, in 1844, of the "Gherardini Collection," consisting of thirty original models, by great Italian artists. These were allowed to remain for a considerable time at Marlborough House. On the subsequent rapid development of the Art Museum at South Kensington, however, it was seen that works of the class named were directly related to the varied gatherings at that place, of Italian art, the majolica ware, decorative bronzes, carved furniture, mosaics, enamels, &c. &c., and to it the Gherardini Collection was removed. In 1859—60 many acquisitions were made in Italy, and the purchase finally, of the Gigli-Campagna Collection, brought the series to its present state.

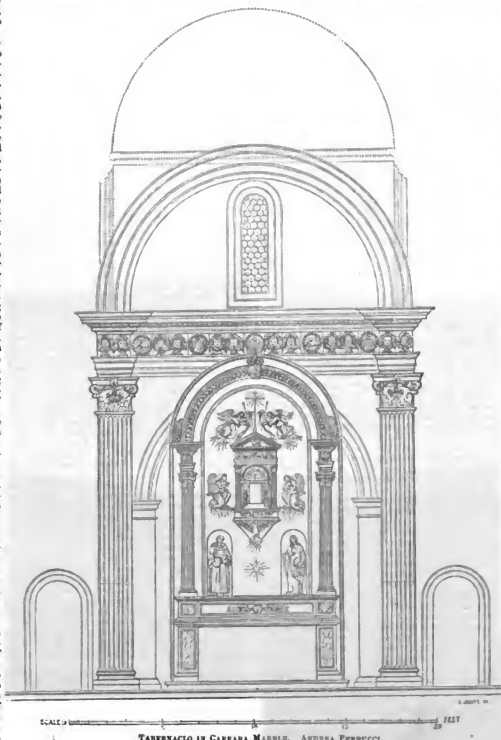
The Pisani are the first sculptors whose works are referred to and illustrated in the catalogue, and justly so, for, as Mr. Robinson asserts, in reference to one of them, Nicolo, that he was "the earliest medieval sculptor whose name, universally celebrated in his own day, has descended to the present age with undiminished lustre. For many centuries before his time, all representations of the human figure were either very barbarous, or were of the monotonous and corrupt style; which being the result of the gradual decline of antique Roman art, was finally, towards the ninth or tenth centuries, reduced to an unchanging system by the Byzantine artists." Two illustrations, well executed, serve to show the merits of the Pisani. One of these represents the marble statue of an archangel, one of a group of two archangels and three saints, which formed, originally, the angle-pieces of a pulpit. The other engraving exhibits an alto-relievo in marble; subject, the Salvation of the Virgin. The original formed, probably, the frontal of an altar. They are both admirable works, and demonstrate the skill of the artists. Reference is made to other works of the Pisani family, as well as to those of Andrea Pisani, who was not related to, though contemporary with them.

Advancing from the thirteenth to the fifteenth century, we come to the works of Jacopo della Quercia, Lorenzo Ghiberti, Donatello, Antonio Rossellino, Desidero, Antonio Cambrelli, and others of more or less celebrity. These are all dealt with by Mr. Robinson in a manner which speaks eloquently of his fitness for the onerous task he has undertaken and successfully accomplished. Their *chef d'œuvre* are illustrated, and brief biographical notices of the sculptors are appended. If in the space at our disposal it were possible to refer individually to the works of these eminent

men, it would certainly be a pleasing duty to do so. They were the pioneers of the glorious band of revivalists in art whose names and memories should be cherished and honoured by architects and artists "to the last syllable of recorded time." As it is, we must dismiss them, and commend those who are desirous of learning more of them to the specimens of their labours which now happily enrich the Museum at Kensington, or to the catalogue which chronicles their merits.

Of the Florentine school, which may be said to have flourished in the fifteenth and sixteenth centuries, Mr. Robinson furnishes us with a fine illustration, and which we transfer with pleasure to our own pages. This consists of a geometrical elevation of the Tribune, or "Cappella Maggiore" of Santa Chiara, Florence.

"The ancient convent of Santa Chiara, in the Via Santa Maria, Borgo Santa Spirito, Florence, was suppressed early in the present century; but a part of the Church, comprising the *Cappella Maggiore* or choir, and a small portion of the nave in front of it, was retained as an oratory down to the year 1848. \* \* \* Subsequently, from want of funds, the services in the oratory were abandoned, and it was desecrated and converted into a sculptor's studio. A speculator, aware of the treasure it contained, became the purchaser of the *Cappella Maggiore*, and turned his attention to the sale of its decorations. Attempts were made to save it to the city of Florence, but they failed—fortunately for this country—and in the winter of 1860, the right of removing all such portions of the edifice as might be deemed desirable was acquired for the Museum. Fortunately, again, the nature of the building admitted of the removal of all the portions necessary to its reconstruction. The scabrous stone facades of the interior of the edifice, together with the marble high-altar, have accordingly been brought to England; and it is proposed to rebuild the work precisely as it formerly stood. As an opportunity so favourable for architects and artists to inspect the veritable structure will soon be given, it is not desirable that we should go into further detail respecting it. It would be ungenerous not to state, nevertheless, that the *Cappella Maggiore* is the joint work of four great Florentine sculptors, namely, Desidero da Sittignano, Simone Pollaiuolo, Andrea della Robbia, and Leonardo del Tasso, to whom, says our author, should be added, as the master-



TAKEN FROM THE INTERIOR. ANDREA DELLA ROBIA.

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mined from whom the idea of its erection indirectly proceeded—Filippo Brunelleschi.

Passing by other immortal workers and their almost immortal productions we reach at length Andrea Palladio; and, as a proof of his claim to honourable mention among the other great spirits in whose company he is found, we append an illustration of his choicest work—a *Tavernade*, or *Ciborio*, in Carrara marble.

The elaborate beauty of this we need not descant upon; for the engraver has successfully transferred it for the advantage of our readers. The height of the *tavernade* is 5 ft. 6 in., and its width 2 ft. 6 in. It consists of a shrine-like frontispiece, with a door in the centre. The originally afforded access to a crypt in the wall. The gilt-lacqued door is perfect and is engraved with a half-figure of our Saviour standing on the seculchre. Two pilasters, carved with festoons and clusters of fruit and flowers, flank the sides, and uphold a semicircular pediment or lunette, in the centre of which stands a figure of the infant Saviour, in full relief, and surrounded by foliated ornaments. The *tavernade* is supported beneath on a triangular bracket, decorated by an eagle, with outstretched wings, and a shield of arms, festoons, &c. This specimen was brought from the Church of San Giordano at Fiesole.

Following the course of time, and taking admirable notice of the sculptors who from the sixteenth to the close of the seventeenth century distinguished the country which gave them birth, does Mr. Robinson proceed, and his work thus becomes an illustrated epitome of the history of the fine arts in Italy. It is long, indeed, since so valuable a catalogue emanated from the press, and its author—for although his work is modestly designated a "Catalogue," we cannot say its compiler—is entitled to the warm thanks of all who have an interest in art, or an aspiration for the honour and welfare of his country. It is impossible to rise from the study of such a work without feeling one's self elevated, purified, and, as it were, carried back in imagination to those days when, in truth, intellectual giants existed in the fair, and, thank God, now free land of Italy.

We unreservedly recommend the work under notice to the attention of all who are engaged in the ennobling study of sculpture and its sister art—architecture.

#### BUILDINGS IN SCOTLAND.

(From an Edinburgh Correspondent.)

**NEW FREE CHURCH AT IRVINE NEAR GLASGOW.**—The design of Mr. F. T. Pilkington, architect, of Edinburgh, having been selected through competition for the above church, the work will be commenced immediately. Approaching Irvine by the Railway from Glasgow, the tower and spire which rises to the height of 120 ft. will be seen to great advantage. The tower consists of a lower stage, 76 ft. high, in front of which is the main entrance, consisting of an archway, richly carved and foliated on the under side. The porch gable is filled by geometrical figures, in stones of different colours. There is a rich cornice at the top of the lower stage of the tower. The upper stage of the tower is 44 ft. high, and is octagonal, having four sides entered by two light windows, particularly by very acutely pointed gables, filled with various coloured stones. The other sides of the octagon are occupied by pinnacles. Both the gables and the pinnacles rise above the spire tables, so as to soften the junction of the tower and spire.

Halfway up the spire there are four gables, with ornamental openings. The foot of the west gable is made, consisting of one large cove arch, with two smaller arches on either side supported by clustered columns. By means of this arcade, access is obtained to the higher elevation of the church. Over the two sides of the arches are two two-light traceried windows, springing from a richly carved cornice; above this is a rose-window, 20 ft. in diameter, canopied over by a foliated arch above the arch; the gable is filled up with rays of coloured stones—the green, white, and red stone of the district; each ray is disposed in geometrical patterns. This gable to the top of the final measure 90 ft. high. On the south-west corner, grouping along with the tower and the west gable, is the arcade, continued along two sides of the church.

Above the arcade, which at this corner is circular, the session-house is placed, surrounded by a slated spire, on either side of the body of the church is an octagonal spire, 68 ft. high, the north and south faces of which are occupied by a large trefoil arch, containing a two-light window and a vesica. The sides of the church are occupied by three-light pointed windows with double columns. On the north side, which is also seen from the railway and the bridge, there is a vestry, surmounted by a slated spire in two stages, rising to the height of 61 ft. At the east end of the church is to be a large schoolroom, in keeping with the general design of the church, and capable of accommodating nearly 300 children. The church is to be seated on the ground floor for 600 persons, and the gallery at the west end of the church is to accommodate 150, making a total of 750. The session house is so arranged that when there is a crowd, it can be thrown into the church.

The roof is to be an open timber one, and the height from the floor the ridge is 51 ft. The cost of the building is estimated at £4,000, and the mason work has been contracted for by Mr. Wilson, and the carpentering by Mr. Wright. The church is expected to be completed early next year.

**NEW BUILDINGS IN WEST REGISTER STREET, EDINBURGH.**—A large and handsome building is in course of erection in the above place, which is now

raised up to the second floor. The building consists of three flats, surmounted by a mansard, in which there will be one full flat, and an attic or half flat, the whole rising to the height of upwards of 60 ft. The facade to West Register Street is about 46 ft. in length, and the north facade is 65 ft. in length. The first, or ground floor is to be occupied as a show room by Messrs. Hume and Co., plumbers and gasfitters, and consists of shops. The second floor is an arcade, consisting of five circular headed openings, divided by small piers, with archivolts and terminated keystones. The windows of the third floor will have moulded architraves, with retrieves, and are to be divided by pilasters with bases. Above these is a massive and highly ornamented cornice, finished with an ornamental balustrade at the base of the mansard. The mason work is being executed by W. and D. McGregor, and the work is so far advanced that it will be ready for the roof in about five weeks, but the premises will not be fully occupied till the early part of next year.

**NEW TOWN HALL, PONTFRIEDLAND.**—The plans for the proposed new Town Hall have been prepared by Mr. David Bryce, architect, Edinburgh, and approved of by the Building Committee, and the estimates are now being taken for the erection of the building, which is to be of the old Scotch baronial style, and will prove a handsome addition to the street architecture of the burgh. The work will be commenced as soon as the estimates are settled upon, and it is expected that the foundation stone will be laid early in the season, with full masonic honours. Communications have been received into which his Grace the Duke of Atholl, grantmaster of the lodge of Edinburgh, will lay the foundation stone towards the end of July next.

#### ARCHITECTURAL ASSOCIATION.

A MEETING of this body was held at the rooms, 9 Conduit Street, on Friday: Mr. A. W. Bloomfield, M.A., in the chair.

*Professional Charges and Practice of Architects.*—Mr. PARSONS remarked, that the document recently agreed to by the Institute of British Architects, respecting the Professional Charges and Practice of Architects, as it bore very particularly upon the profession, should be well considered. At the present time the public generally were not aware of what constituted the duties of an architect, and in many cases thought architects made charges which they were not entitled to do. And as the document to which he referred came from the leading architects of England, he thought it should be made more public than it had yet been. This was a matter of very serious importance to the profession. Mr. PARSONS thought the members should, in the meantime, carefully study the professional charges, and at some future time he should draw the attention of the Association to the subject.

*Office-bearers for the ensuing year.*—Mr. Ridge and Mr. Walter were appointed scrutineers of the voting papers for the election of office-bearers for the ensuing year. At the close of the meeting the following gentlemen were declared to have been elected:—*President*, Thomas Blashill; *Vice-president*, H. Norman Shaw; *General Secretary*, Mr. Compton; *Members*, Bloomfield, Bunker, Spies, Lewis, Tarver, Goodman, Paris, Parson, New, and Gritten; *Honorary Treasurer*, Charles J. Adams; *Honorary Solicitor*, Francis Truett; *Auditors*, J. W. Penfold and J. M. Rickman; *Curators*, C. H. F. Lewis and J. W. Walter; *Honorary Secretaries*, Charles J. Adams and H. Attwood Reeves.

*Restoration of the Chapter House of Westminster Abbey.*—The CHAIRMAN said, he had to announce the receipt of a letter from the Committee for the Restoration of the Chapter House of Westminster Abbey, inviting members to sign the memorial to the Government in favour of the restoration being effected at the expense of the country, instead of by private subscriptions. The memorial was unanimously signed in the course of the evening.

*Visit to Westminster Abbey.*—The CHAIRMAN said, he had the pleasure of informing the meeting, that Mr. Roger Smith and himself called upon Mr. Scott, respecting the proposed visit to Westminster Abbey by the members of the Association. Mr. Scott at once undertook to accompany the members of the Association over the Abbey on Saturday (to-morrow), the party to meet in the cloisters at 3 o'clock. The Very Rev. the Dean had given his full consent to the scheme. The members, especially the younger ones, should bring note-books with them, for the purpose of taking down any remarks Mr. Scott might make during the visit, particularly with reference to future sketches of the building. Mr. BLASHILL said, he thought those members who missed this opportunity of visiting the Abbey would much regret it afterwards.

It appeared, from a letter sent to the meeting by Mr. Roger Smith, that a prize—a copy of Scott's work on Westminster Abbey—was to be given to the member who shall write the best account of the visit to this renowned structure; the papers to be sent to the honorary secretaries of the Association on or before the 1st of September; the prize to be awarded at the opening meeting of the next session; and the judges to be chosen at the Abbey from amongst the members present.

#### ANNUAL CONVEGSAZIONE OF THE ROYAL INSTITUTE OF BRITISH ARCHITECTS.

THE entire suite of rooms occupied by the Royal Institute of British Architects, as well as the adjoining Architectural Galleries in Conduit Street, Hanover Square, on Wednesday night presented a gay and animated scene, by the presence of a brilliant assemblage of ladies and gentlemen, on the occasion of holding a second annual *Convegnaione* of the leading archi-

ectural body of the kingdom. The first meeting of a similar character was held in July last, and was attended with marked success; this year the reunion has been no less prosperous, although probably the paintings, curiosities, and articles of vertu exhibited, were not so numerous, no doubt owing to the superior claims of the Great International Exhibition at South Kensington. The display, however, was worthy of the occasion, and was distinguished by a more judicious arrangement than it elicited last year, the greatest presence in the realm, and her royal husband, the great patron of art, sent munificent contributions to the art-display of the first *Generazione*; this year the widowed Queen, not forgetting the great interest the late lamented Prince always took in the welfare of the Institute, sent a magnificent collection of precious stones, and a number of other very valuable antique drawings. Multitude of our friends and well-wishers of the Institute and of architecture, and the fine arts generally, were not idle, and the result was that the second *soirée* was a complete success. The whole of the rooms were decorated in a superb and tasteful manner, under the management of Mr. Chaffers, of Fitzroy Square (whose skill and taste in the arrangement of the rooms was well known), and assisted by the honorary secretaries and several other members of the Institute. There were exhibited paintings in oil and water colours, embracing portraits, landscapes, &c.; statuary, engravings, ivories, photographs; autographs; antique vases; gold, silver, and mixed plate; drawings; sketches; ancient and curious cups, of various kinds; antique medals; coins; and a large number of other objects of interest. In the hall, horseback; old ruby-glass vases; silver mounted; silver dishes; Indian vases; tortoise-shell and pearl boxes; old bull brocket; a pair of horned-winged griffins; an ivory tankard, silver mounted; curious candlesticks; coral; specimens of fur from Sweden, Siam, Lamosé, Ahrens, and Italy; ivory chapelets; friezes, bas-reliefs, work in plaster, medallions, and other objects of interest. In the lecture-theatre, a number of illuminated missals; Wedgwood ware; a silver-inlaid hookah; carvings in ebony; daggers; pieces of needlework in frames; carved ivory horns; ivory drinking-horn, with hunting subjects; views of Indian temples and costumes, &c. &c. In the west gallery, the Welby Pugin Collection of sketches and drawings ornamented the walls, as well as a large number of antique portraits, autographs, and other objects of interest. In the east gallery were shown, by Mr. John W. Brett, beautiful works in cameo, bronze, and a number of vases in antique marbles, including Rosso antico, Giallo antico, porphyry, sienite, serpentine, grand antique, verd antique, &c. In the Great Gallery were the drawings and sketches shown at the Architectural Exhibition, 1857, and the East Gallery contained many paintings in the classic style, by Titian, and some beautiful specimens of tapestry of the fifteenth and sixteenth centuries. The lecture-theatre of the institute, Mr. John Webb exhibited a most interesting Gothic cup, of mixed gilt metal, representing a citadel; Mr. Hunt, Roman, original drawings, and a number of other objects of interest; Mr. Michael Angelo, a portrait of the artist, by Raphael, and a number of other objects of interest; Mr. Thomas Wren, Sir James Thornhill, and Titian, and a drawing of the Ctesseus; Mr. Thomas Woolner, a marble bust, and some animals beautifully executed in bronze; there were also exhibited in this room some valuable pictures by Turner, Holman Hunt, Arthur Hughes, and John Milne. Mr. J. P. Seddon contributed to this room his brother the late Mr. John Seddon's portrait, by the artist, and a number of other objects of interest, and of "Jerusalem" (a work of art purchased by the National Gallery), and pictures by the same of the interior of a room at Cairo, and of the Mountains of Moab; and another work of art, representing Giotti painting the portrait of Dante, by D. G. Rossetti. Her Majesty contributed thirteen drawings of ancient buildings, including one on vellum (by Inigo Jones) of the Whitehall Palace, and several of the Coliseum at Rome, the Farnese Palace, &c.

The hall and staircases were ornamented with flowers, evergreens, statuary, &c.; and in the course of the evening tea, coffee, ices, and other refreshments were supplied to the visitors. About 1,500 invitations to the *Conversations* were issued by the Institute.

Amongst the contributors of the articles exhibited were—Her Most Gracious MAJESTY THE QUEEN; the Hon. Emily Endle, Mrs. L. H. Michael, Mrs. Manson, Miss A. Manson; the Marquis D'Angelo; Lord Auckland; Lady de Grey; the Duke of Devonshire; the Duke of Cambridge; Mr. Tebbis, Mr. P. Norton, Mr. J. Norton, the Arandé Society, Mr. T. H. Wyatt, Mr. T. Whitehead, Mrs. Thomas Kibble, Mr. W. Carr, Mrs. Duckacker, Messrs. Fawcett, Mr. J. P. Seeldon, Mr. John Webb, Mr. Mortons, Mr. G. B. Smith, Mr. C. E. Smith, Mr. R. S. Smith, Mr. J. H. Smith, Mr. T. Roger Smith, Mr. J. Livock, Mr. William Laszlez, Mr. Woolner, Mr. H. B. Garing, Mr. E. J. Kentze, Mr. William Simpson, Mr. Edward Davis, Mr. John Leighton, Mr. Albert Way, Mr. M. Digby Wyatt, Mr. John Henderson, Mr. James Henderson, Mr. J. H. Henderson, Mr. J. Henderson, Mr. Henderson, Mr. May, Mr. Thomas O. Kybble, Mr. B. Hollander, &c.

STUDIES OF MODERN ARCHITECTURE AT HOME  
AND ABROAD.

By G. R. BURNELL, Esq.

From "ARCHITECTURE OF THE VICTORIAN AGE."

[Continued from page 417.]

THERE are two important remarks to be made on the subject of the want of taste which characterised the English Architecture of George IV.'s era, and of the dawn of the revival of mediæval art throughout Europe.

The first is, that rarely happens that the nations which occupy distinguished places in the world's history as guides and rulers in political affairs, are at the same time remarkable for the excellence or the originality of their literature. The second is, that the nations which are distinguished by the external characteristics of a nation are altered, it is heralded by a literary movement preceding the artistic one. The second is, that the change of taste, feelings, and opinions which accompany these revolutions in the history of nations, is reflected in the art of the nation. The third is, that the art productions of the successors of the revolution which immediately works out the moral problems on which those revolutions depend. Thus, the old Romans avowedly claimed credit to themselves for the possession of the power of acquiring the knowledge of the character and the motives of the great in the past, and the great in the future, and the power of the present in the past, and the power of the future in the present.

Residuum ali solventia molliora etc.

Tu regere imperio populos, Romane, memento !

and the brilliant pools of the Medicean and of the Louis XIV. ages corresponded but too closely with the moral degradation of the nations among which they arose. Ampère also acutely remarks, that even modern Rome herself, at the period when her influence was the most decidedly moral, did not produce any great artists in her own district, but was compelled to seek her architects, painters, and sculptors at Florence, Urbino, Bologna, &c. Again, it was amongst the contemporaries of Boccaccio, Petrarca, Giotto, and the great masters of the Italian school, that the modern era commenced, to be worked out by the Bramantes, Michael Angelos, Filicinas, and Bembos of a future generation; just as Sir W. Scott, Victor Hugo, Schlegel, Saraginy, Pugin, Lenoir, Schinkel, Boissier, Manzoni, &c., the leaders of the intellectual movement of the period between 1814 and 1830, paved the way for the technical revival of the mediæval feeling of later dates. In both these cases, however, the literary and scientific revival preceded the artistic, and the intellectual tendency towards the mediæval tendency, men's minds had been relatively turned towards certain ideas for many years, ere the more material arts assumed the expression of the prevalent modes of thought. It would seem that it requires a longer time to discipline the faculties which are brought into play in the production of works of pictorial, sculptural, or monumental art, than it does to discipline the poetical or the philosophical faculties; and it actually did happen that the romantic school established its power and influence, carrying the principles of its doctrine into the domain of the fine arts, before the artists or architects dared to cast aside the traditions of the classical schools in which they had been educated. Between 1814 and 1830 the prevalent style of art in France and in England differed but little from those of the antecedent period; but when the generation educated under the influence of the ideas fermenting, as it were, at that time, came upon the stage of active life, their hopes, aspirations, and day-dreams found vent in the production of works of art, and the new style of the romantic school did, it is true, attempt to adopt the *Gothic* style, as it was still called; these works at the present day are bitterly criticised by the students of archaeological details, and, indeed, they were very ludicrous affairs in many instances; but they at once display the existence of the same description of sentiment—of the same mental idiosyncrasy—as the one which had inspired the middle ages themselves, when examined by those who can look beyond the character of a foliage decoration, or the profile of a mediating monument.

and, it is probable to dwell upon these considerations, because there is a tendency at the present day to confound the ideas of national taste and of national prosperity, and to regard the refinement of the one as the necessary predecessor of the other. History would appear, however, to teach another lesson, and hitherto the nations which have turned to the excessive cultivation of their artistic fancies, have witnessed the decline of their moral virtues, and consequently of the elements of their power and political superiority. It is to be feared, too, that the nations which have been the most successful to which the students of fine arts, from the very nature of their pursuit, are especially exposed, on account of the imaginative character that pursuit is likely to foster. In the body of the nation itself, when the arts are more than usually cultivated, somewhat of the same phenomenon occurs, and the refinement and luxury thus expressed lead to a morbid and effeminate delicacy of thought and feeling directly opposed to the manliness and vigour of mental character. The state of English and French architecture in the fourteenth century, and the state of Italian architecture in 1814 and 1830, seem to illustrate, in a partial manner, these views; and decidedly inferior as our schools of architecture then were to those of our neighbours, it may fairly be questioned whether our very deficiencies were not indications of the prevalence of a healthier tone of the public mind than could be discerned in the more artistic productions of our neighbours. The buildings of the later period of the Georgian era were, no doubt, singularly devoid of taste, and they did not indicate any deep or abiding sense of the value of the fine arts; but they were not so far removed from the standard of good taste as the productions of the followers of other arts and sciences of their day; and thus must be considered to mark simply a transition state in their own particular walk. It could not be, that the epoch and nation which could boast of such men as Playfair, Dugald Stewart, Reid, Byron, Shelley, Wordsworth, Southey, Coleridge, Lamb, Flaxman, Turner (in his best day), Wedgwood, Rennie, Telford, Dodd, D. Stevenson, Watt (at the close of his career), Olynthus Gregory, Tredwell, and Hay, could be so deficient in the sense of the value of the fine arts, and of the importance of the "plastic matters" of life; and even the strange ragnaries of the Pavilion, of All Souls, Langham-place, and the questionable repairs of our cathedrals, indicated that a profound



movement was then going on in the national mind, which has paved the way to much of the improvement of more modern times.

At the present day we are apt to treat with ingratitude the services rendered to the cause of architecture by the researches of the archaeologists, the discovery of the Restoration style; but a great portion of the credit awarded to the artists of subsequent times ought, in justice, to be awarded to those who collected—often at great personal risk—the elements of artistic education. Our new Aberlens, Hope, Gell, Inwood, Wilkins, Cockrell, Donaldson, Pugin, Wey, Britton, Daniel, de la Roche Deson, Perrier, Fontaine, Montigny, Clocat, Quatremer de Quincy, Raoul Rochette, Visconti, Desmoussier, Kodier, Menzies, &c., had studied and reproduced the various forms of ancient art, and had called attention to those of the Middle Ages, of Egypt, and of India. The seed thus sown has yielded good fruit, but our debt of obligation to our predecessors is not the less great; and though the architecture of the period between 1814 and 1830 did not produce any buildings able to characterise a "style," it rendered it easy for its successors to approach that desired consummation. In fact, this period was one of action and moral transition, for the conviction of the stability of old forms of law, philosophy, art, and even of religion, had been violently shaken by the events of the end of the seventeenth, and of the beginning of the eighteenth centuries; and men were anxiously examining the grave problems of man's destiny here and hereafter, and the mode of organising society so as to allow him to work out that destiny in the freest and most satisfactory manner. The architects of this period reflected truly of the public mind. It was essentially uncertain and tentative. All previous styles were tried in their turns, and their merits discussed, but little originality was introduced into the works of the architectural students. Rousseau said, that "quand on commence à raisonner on cesse de sentir;" and so it seems to have happened with the architects of the Restoration epoch, and their productions are more remarkable for learning than they are for fancy or for imagination, especially towards its close. At any rate the public monuments and the private constructions of this period indicate that a great problem was being worked out, and that the past and the future were arrayed face to face before thinking minds.

This was not the case only in the countries we have hitherto exclusively considered; for in the newly created kingdom of the Netherlands, and throughout Germany, the same uncertainty and the same energy of aspiration after a more stable social organisation may be discovered. It is true that the Dutch had subordinated contentedly into the sleepy indifference which has so strangely characterised them of late years; but the Belgians were beginning to shake off the incubus of the French occupation, and of the deliberate exclusion from the commerce of the world to which they had formerly been condemned by the jealousy of their formidable rivals of the United Provinces; and in Brussels, Ghent, and Liège, Amsterdam, and Antwerp, again to adorn and improve the town architecture. In Germany, the signs of activity in this field were more distinctly marked still, and the schools of Vienna, Berlin, and Munich, were earnestly striving to eliminate a style of their own, under the guidance of such consummate artists as Schinkel, Von Klenz, Knoblauch, Von Gärtner, Ohmüller, Von Hübner, G. Müller, &c. In some respects, indeed, the German Architecture of the Restoration epoch may be considered to be far superior to that of any of the contemporary European schools, for it was bolder, more distinctly national, and more fraught with promise for the future, than they were; yet even at this time the cold polyanthropy and the dreamy mysticism of the German intellect could be discovered in the architecture of the various capitals; and there is a lack of spontaneity about the servile adaptations of the forms of antecedent art, to be seen in the Akademie, the Glyptothek, the Theatre of Mainz, the Allerheiligenkirche, &c., which goes far to mar their effect. Of late years, indeed, German art has been singularly "bureaucratic" in its spirit, and it bears ineffaceable signs of the personal influence of the rulers of the day, and of the tyranny of schools; self-dependence is not a German virtue, and it would be but lost labour to seek for its manifestation in German art. As to the geographical position of Germany, it was not a little unfortunate, as a little national independence, and so little personal liberty in them during the period we have attempted to review, that they may safely be left out of account in the endeavour to discover the philosophy of architectural development.

#### HOUSES FOR THE POOR.

THE Dundee Courier and Argus, referring to the "Report of the Committee on Houses for the Working Classes, to the general assembly of the Free Church of Scotland," says:—"There is a subtle sympathy between the mind and the body, by reason of which bad dwellings fix and perpetuate bad habits when they have been formed, and encourage their formation when they have not properly settled. All such evil well known, and has been so from the time the subject was first investigated; and it is equally notorious that in every large town there are thousands of the working classes living in houses of the very worst kind. Old houses separated into apartments of two rooms or one, are the places in which they and their families are crowded like pigs in a sty, without the means of being clean or decent, much less comfortable; and there, beside the risk of moral degradation, means that, in the first instance, the physical health of the standing invitations to physical disease. When the report says that these places are inferior to the wigwags of North American Indians, it does injustice to the red men of the New World by instituting the comparison. Nowhere, in the whole history of the world, have there been

known worse incentives or more powerful provocatives to vice, than are presented in the cities of to-day, and which form a part of what men proudly boast of as 'civilisation.' This is a state of things which must be remedied, or the consequences of which must be borne. There is nothing truer than this—the working classes are the foundation of a State. On that basis all else must rest. The superstructure may be magnificent, but if the foundation rot beneath it, there is danger of its fall; and our working classes are exposed to influences which it would be folly to suppose are not sapping the sources of their powers. The question is, where is the remedy to be found, and how is it to be applied. The report points to the fact that it is not a remedy, but the reverse, to pull down the square buildings in which the poor are crowded. The only effect of that is to drive them into those which remain, and thus to render more intense the evil. Instead of more room, there is less, and the dens which were before too full, become fuller by the destruction of a part. If any good is to be done, before there is destruction, there must be construction. There must be new houses before the old ones are pulled down. The difficulties here present themselves. In densely populated cities, where is the ground for new buildings to be had? That is a legislative question. If the ground were ready, who is to erect the buildings? That is a commercial question. We have only space now to say that the committee propose that Parliament should be applied to for powers to take ground for working men's houses, in the same way as is done for the construction of railroads. As to who must build the houses, starting as it may appear, the report says, the working classes themselves."

#### THE GENIUS OF TURNER.

A COMPLETE or final idea of the character and achievements of Turner's genius I cannot pretend to have formed. But I may say, however, that I have discovered in him certain elements, vague yet unmistakable, of a gigantic mind, great in its simplicity, in its massiveness, in its sweep of comprehension, in its concentration of energy. Turner had none of your perked and patry originalities about him. His power of plagiarism was as magnificent as Shakespeare's, Goethe's, or Carlyle's. His real originality was no more doubtful than theirs. He who has really caught the genius of the painter is the last man to imitate his work, he who has touched the mantle without imitating the gait is the true original. Turner was the most earnest of scholars: he reminds you continually of other painters; but what he found brick, he left marble. As a realist, his grasp was irresistible, and will not now be questioned. But it is my deliberate opinion that as a poet he was more wonderful than as a realist. He rendered mountains and skies, forests and streams, as they never were previously painted; and his boldness in the frame of the redining giants was weight studies the earth, every wrinkle on their brows, every gleam of light upon their craggy forehead, he brought out with solitary power. The springing also of the bough and the sinewy strength of the stem, the wayward grace of the river and boiling torrent foam, the hot haze, swooning over the distances of mid-summer, the scenery of the upper heavens, the lurid or fiery-red of stormy sunset, all were Turner's own. But if he surpassed other painters in these and other provinces of pure realism, he surpassed them still more, as I said, in strictly poetic, in creative might. Who could select like Turner? You know that city and the scenery in which it is embosomed: but did you ever see it in that grandeur of attitude? Could any other painter have showed you it so? You would say cities and mountains were proud to sit to their portrait painter, since none could possibly know like him their characteristic points, and could so elicit and combine their distinctive and contrasted features, none could let them so well be seen. Yet selection is by no means the only power of Turner. Taste might go far to import or regulate a power of selection, but the sovereign imagination alone could give the deepest poetry that dwells in Turner's pictures. He seems, by life-long observation and musing, to have detected nature's secrets of effect, her modes of contrast, her suggestions of thought; and his imagination struck out more grandly that which she aimed. The strength and stateliness of the precipices, the majesty of mountain-shadow, the exciting magnificence of broad streaming light, the mysterious suggestion of infinitude by the steep and soaring line of mountain side, lost in the hanging clouds that seem to drop from the outer immensity, are all, as it were, vocal in a picture by Turner. The mountains are no longer dumb; Turner caught their thrilling secrets: he would that he made them speak, all could understand them. This is not an easy thing to explain in words; but the universal sentiment as to prints from Turner proves that I am not alone in finding in his works the most poetic renderings of nature's deepest expressions. A critic whose literary immortality is, I think, as secure as that of Spenser or King Colley, is never upon Mr. Ruskin for demanding thought in pictures. The thoughts are built up in the mind, and the artist is to enter a great mystery. But if you ask where you will find thought, poetry, invention, in landscape painting, I refer you to any volume of engravings after Turner.

I cannot fix upon any picture to illustrate the characteristics of Turner's genius; and to more than one picture I cannot now refer. Let me take one almost indiscriminately. In Lord Ellesmere's Gallery there is a large picture by Turner, painted evidently after the great Vanderelde in the Dutch Brill collection, and of the same two.

The Vanderelde contains a considerable number of vessels. In front is a Dutch packet-ship, a gleam of colour; and in the background, a windward. It mounts a broken sea, which dashes up over the bows. To leeward is a small boat, which dashes up, facing the wind.

The sky has two great banks of cloud, one of them again dividing into three tower-like masses, through which is shed a faint illumination of stormy sunlight. The sea in front is broken, vasty, racing before the wind with fearful velocity. Look now to the horizon.

Far and vast before the clouds, the land, after mountain, comes darkling over its waves, "resembling all the blast before it." The rounded tops are steeped in the somber light which appears in the Vanderriele. A gleam of the same rods on the sail in front. The whole under part of the great bank of cloud is black and thundery; beneath, the white waves are seen mysteriously rising and writhing. In the distance, a tall three-masted ship has veiled all sail, and looks towards the land. In front, two small vessels are like unto promontories, running off of each other the line of waves, down, the other with bellying sail attempting to hold up to the wind. A sea strikes them both, dashing in wild foam over the bow of that one which has its sail spread. The waves in the foreground roll in one or two huge, angry ridges, the trough of the sea being filled with seething foam.

It is known that the picture by Turner is a companion to that by Vanderriele, and is a direct attempt either to imitate or to grapple with it. But mark how the conception, or rather conceptions, of Vanderriele, gain from the touch of Turner. The forms of the Dutchman's picture seem to have been dissolved or sent up, and again brought together, into grander, simpler masses, at the word of a mightier imagination. Vanderriele's sea is covered with ships; only one or two break the loneliness and gloom of Turner's. The sea of Vanderriele is choppy and gusty; the broad plain of his waves is equal vastness; one or two mightier vessels, several millions of miles in their hollows, occupy the front of Turner's. But the alteration in which the master mind and hand are most signally displayed is that passed upon the clouds. These all come together in Turner's picture; no division breaks the unity of the simple, overpowering mass; it rolls on there, dark, heavy, towering, majestic, in the grandeur and terror of tempest.

It could, I think, be disputed whether that a change similar to that observable in Turner's treatment of Vanderriele's subject, was effected by other artists in that he made, by earnest study, his own. The conceptions of him all that I compare to the many hills, interesting, varied, beautiful, of the newer geological formations. They may be the picturesque crags of the limestone, they may even be the jagged crests of the metamorphic hills; but they are comparatively few and comparatively many; the imagination of Turner, working from lower depths and with mightier power, upheaved the central ridge, the primary mountain chain, rising above all the rest, unapproached in height, and unbroken and alone in majesty. Composition becomes, with him, vital artistic unity; prettiness becomes noble symmetry and proportion; beauty becomes sublimity. I think I can admire the grace and elegance, the liquid sky and liquid water, the colored pillars and dipping fronts, of Claude. But my perception of the fact that a conception is more majestic than a palace gable, is hardly more distinct than my perception of a grotesque and majesty in the forms of Turner totally absent from those of Claude. The latter is to the former as Pope was to Homer. And this I may while aware of the historical fact that Turner studied Claude with tears of despairing admiration in his eyes.—*Bayne's Essay.*

#### TASMANIAN TIMBER.

THE visitor to the International Exhibition cannot fail to observe, in the Central Avenue, a very high trophy of Tasmanian timber, which the Commissioners of the Exhibition for Tasmania have placed there as a specimen of the different kinds of wood grown in that colony. This structure was designed by Mr. George Whiting, Secretary to the Tasmanian Commissioners, to illustrate two important branches of the local industry, viz., the abundance, variety, and lasting qualities of the timber, which may prove acceptable to ship and other builders, and railway contractors; and, also, illustrate the peculiar adaptability, from their beauty of colour and marking, of the Tasmanian cabinet woods for the general purposes of ornamental furniture.

Mr. Whiting, who has compiled a brochure upon "The Products and Resources of Tasmania, as illustrated in the International Exhibition," says:—"To render this trophy a temporary museum of the more useful Tasmanian woods, specimens have been procured from the oldest public buildings of the colony, each of which is fully labelled, and will tell its own tale. The Earl and Countess of Cornwallis' residence, the Government House, the door-posts, flooring-joists, boards, window-lintel, and architecture—of Macquarie, blue gum, and stringy-bark—which are as sound as when built in forty years ago. These relics of the past, had they power of utterance, might relate legends of human trial, suffering, and adventure of early colonial days, which would now be deemed incredible. But the evidence which they offer of their own durability must be taken as incontestable and complete. Nearly all the timber of the Old Hobart Town Company has been found to be sound, and has been used in the erection of the New Post Office just completed on the same site. But the builder and the railway engineer may ask, 'Will Tasmanian timber resist equally well the atmospheric influence of the open air?' The naval architect will enquire into the 'behaviour' under water. Let the old piles, and planks, and posts, in the trophy supply the timber of the Old Hobart Town Company, which have been split down longitudinally in order to facilitate inspection, and partly submerged daily, as the tide rose and fell, for periods up to twenty-one years, whilst forming part of the wharves of Hobart Town. Blue gum and other planks from the Wharf Platform will show their power of resistance, for the same period, of copious showers, hot sunshine, dry winds, and heavy traffic. Other material witnesses to the durability of Tasmanian wood have

been summoned from a colonial-built vessel, which has been stranded for fourteen years, in the shape of plank, timber, treasies, &c., which also fully attest this fact. A Tasmanian schooner, built of blue gum—the Flying Squirrel, 97 tons, has twice been thrown by the surf above high-water mark, and being set off did not exhibit the slightest derangement in her lines, or a sprung treail, and has never even required to be pumped since undergoing this severe ordeal. Veteran posts from the earliest fence of the colony, of poplarum, and other woods, which have stood faithful sentinels over the crops and herds of the settlers of the last generation, here invite inspection of their almost unimpaired condition. What further proof can be required of the lasting and useful properties of Tasmanian woods?

"That these woods, particularly the blue gum, may be seen in all conditions the ship-yards and coach-factories of Hobart Town have furnished specimens as usually seasoned imperfectly, and as seasoned carefully. The specimens of ship-timber, from Mr. Macgregor, have been ten years, and that from Mr. Ross has been twelve years, lying in an open ship-yard, exposed to all weathers. With these specimens of rough seasoning may be compared the blue gum plank of Mr. Burdon, coach-maker, which has been carefully seasoned under cover for seven years; and other specimens of Dr. Crowther's, which have been seasoning for ten years. This comparison will serve to show that much depends on the seasoning of the blue gum; that it is a most valuable wood when fairly seasoned, and that, even when roughly prepared, this wood is unsuited for the purposes of ship-building, requiring great attention. Another variety of the Eucalypti—the gum-timber stands bark—nearly, if not quite equal, to blue gum, and procurable in greater abundance, of a straighter grain, and of more free working character, has more recently become an object of considerable attention. Its durability and general quality are well illustrated by a plank, which, with the old piles, has been exhibited by Mr. Oldham, that has been in use twenty years in the platform of the Hobart Town wharf."

"The octagonal column is formed of eight spars of blue gum, stringy bark, white gum, silver wattle, blackwood, and sassafras. The eight sides of this column are formed at the base, by eight large planks set on end, of blue gum and stringy bark, from Mr. Crowther's timber establishment, at Oyster Cove. The thickness of the trees from which these planks have been taken will be seen at once by persons conversant with timber. The heart of the Tasmanian trees is nearly always unsound. In these planks, as in all planks used in the colony for ship-building, the heart is cut off, and the width of the plank shows the size of the tree outside of the heart. To show the length of which ship timber can be obtained, planks have been sent home of blue gum, measuring 90 ft., and of stringy bark, measuring 80 ft. in length, of equal width and soundness throughout."

"The sample of ship timber from the base of the trophy, which is thus constructed:—Five planks (20 ft. long), of blue gum, stringy bark, blackwood, and myrtle; the two former being fitted for ship-building, and the two latter for cabinet work, are first laid down. Placed across these, are ship's keel-pieces (10 ft. long, squared), of blue gum, and stringy bark. Immediately on these lie, transversely, joists of stringy bark, covered with ordinary flooring of the same wood. The framework of the pedestal placed on this floor is composed of blue gum, white gum, and stringy bark. The joists, quartering, and flooring-boards of the pedestal-platform are also of stringy bark. The centre piece of the spiral staircase is formed of a spar of plain Huon pine, the stairs being made of this free-working and almost imperishable wood. These samples will show what Tasmania can supply of plain timbers. Of large ship's knees—the want of which has often caused a modification of British naval architecture—an unlimited supply can be obtained from Tasmania, where the stumps of the large trees which might supply them are left to rot after the tree has been cut up. These are also shown, in the angles of the pedestal frame, of various conditions as to seasoning. A large blue gum knee, and also a blue gum crook, have been exposed to the open air nearly ten years, in the ship-yard of Mr. Macgregor. In other angles of the frame are three large knees and crooks of Macquarie Peninsula, exhibited by Mr. Boyd. There are also three smaller knees, a blackwood crook (for curved bannister work), and a fine Huon pine knee, in other angles of the trophy. In the interior of the pedestal are also some railway sleepers of blue gum and stringy bark, and pieces of white gum or gum-topped stringy bark, 12 in. by 6 in., 12 ft. in length, contributed by Dr. Crowther, from Oyster Cove, and by Mr. James Boyd, from Tasman's Peninsula; together with some sleepers of blue gum and poplarum wood shown by the Commissioners. The split pilings and roofing shingles here displayed are also fine specimens, varying in length from 6 ft. to 15 ft., and in breadth from 6 in. to 24 in. These are specimens of the ordinary splitting qualities of swamp gum, which wood is valuable for this purpose, but is never used for any other. A longitudinal section of the swamp gum plank from Port Arthur, exhibited by Mr. Boyd, will serve to show the extraordinary length and size of Tasmanian timber. The plank from which this section was taken measured 230 ft. in length. No available ship could be got to take it to London wharf. The section has consequently been divided into 20 ft. lengths, in such a way that the broad cut across shall in each case bear evidence of the former connection of the pieces severed. These lengths, and the others, which could not be sent in time, will prove that Tasman's Peninsula, with its timber and a recent supply from Port Arthur, and its large forests of these valuable timbers, is well calculated for a timber supply station to the imperial dockyards in England. The finest specimens of ship's knees are all from Port Arthur, which, together with Dr. Crowther's establishment at Oyster Cove, have supplied nearly all the best shipping and railway timber now exhibited."

## THE SCULPTURED AND CROSS STONES OF SCOTLAND.

THE subject of the Scottish Sculptured Stones is one of surpassing interest, from the mystery in which the date of their erection, the people by whom they were erected, and the meaning of the symbols occurring upon them, are shrouded. The symbol of the cross, indeed, which we find so constantly recurring upon them, and in one instance, at least, a representation of ecclesiastics bending in adoration before the chalice and the consecrated host, point them out as relics of a people to whom the religion of the Crucified had been previously introduced. The attitude of the sculptured stone, especially what has been called the Celtic knot-work, corresponding as it does with the style of advancement to which the arts and sciences had attained in other things, and with the style of the illumination of several Irish manuscripts of the time, points to the period between the seventh and tenth centuries, as that during which they were erected. This knot-work (says Wilson in his *Archæology*) is to be found on the sculpture, the jewellery, the manuscripts, and the decorated shrines and book-cases of the early Irish, Christian art, and has been perpetuated almost to our own day on the dirks of our Scottish Highlanders.

But the symbols which are sculptured upon them have as yet defied the investigations of the archæologist. We can decipher the hieroglyphics of Egypt and the cuneiform inscriptions of Nineveh and Babylon, but we have not been able as yet to discover any satisfactory key to the meaning of those strange mysterious symbols on our Scottish stones. They occur so frequently as to preclude the idea of their having been the result of chance, and the style of their execution is so varied as to do away with the notion of their having been the production of any particular artist. Besides the cross, the most common symbols are the crescent and an ornament like a pair of spectacles, both of which are represented, sometimes with and sometimes without a sceptre, a mirror or *speculum*, a comb, a horse-shoe figure, and a serpent sometimes with and sometimes without a sceptre. The arrangement is not the same in any two stones, which leads, perhaps, to the supposition that a difference in arrangement implies a difference in the meaning intended to be conveyed.

Besides these symbols, the stones are often engraved with representations of personages and events. We have warriors on horseback and on foot, armed with sword and spear, battle-axe and shield. We have priests and monks, harpers and harp, processions and battles, chairs and war chariots, bows and arrows, horses and dogs. On one monument only is there the representation of a boat, namely, on St. Oran's stone, near Glamis. These stand out on the moss-grown stones, telling their tales of other times, telling us that our Scoto-Pictish ancestors were men of like tastes, feelings, and dispositions with ourselves, and testifying to the value of a degree of civilisation, which, but for these representations, we should scarcely have expected.

It is very interesting to compare the representations which they give of animals which are indigenous to Scotland with those inhabiting foreign countries; for whilst the former are in general executed with considerable accuracy, mistakes are often made in the representation of the latter; the elephant, for instance, being represented with hoofs like those of a horse or of a jaw. Apes, monkeys, serpents, and even tigers are in general correctly executed, which shows, perhaps, that whilst the means of transit then existing sufficed to introduce those animals into Scottish soil, there were no means of conveyance sufficient to transport the gigantic elephant, and that therefore the artist, in delineating the animal which he had never seen, but had only acquired the knowledge of from some rude sketch, or perhaps only from verbal description, fell into mistakes with regard to the form of some parts of its body. Indeed we are not left without trustworthy evidence of the intercourse of Scotland in early times with Eastern countries; for only the other year, amongst a hoard of coins found in Orkney, there was one of an Eastern caliph of the ninth century. The hoard is supposed to have been hidden by a Norse pirate in the tenth century.

Although we have not been able to read the language which the symbols express, we have perhaps advanced a step towards it, in being able to limit and define the district in which the stones on which they are sculptured occur.

The symbolic emblems occur much more rarely on stones between the Tay and the Dee than between the Dee and the Spey, and still more rarely between the Tay and the Forth. South of the Forth there are only two known to exist. One of them owes its preservation to its having been used as a lintel in a window of the church at Aberdeen, the see of the Pictish Bishop Trumwine, of whom we read in Bede, and who, on the defeat of the Anglo-Saxons by the Picts, took refuge at Stronnessalch or Whithy. (Bohn's *Bele*, p. 224.) The other formed a foot-bench in Prince's Street Glasgow, Edinburgh, but it has recently been removed to the Antiquarian Museum.

The crosses of Iona and the west coast of Scotland, bear a general resemblance to those in the eastern districts of the country, with such differences as mark them out as the work of another age and race. The crosses of Wales, Ireland, and the Isle of Man, also bear a general resemblance to the Scottish crosses, but though similar in some respects, the style of the crosses of the Forth, South of the Forth, there are only two known to exist. One of them owes its preservation to its having been used as a lintel in a window of the church at Aberdeen, the see of the Pictish Bishop Trumwine, of whom we read in Bede, and who, on the defeat of the Anglo-Saxons by the Picts, took refuge at Stronnessalch or Whithy. (Bohn's *Bele*, p. 224.) The other formed a foot-bench in Prince's Street Glasgow, Edinburgh, but it has recently been removed to the Antiquarian Museum.

Sixty stones in Scotland have been found near ancient ecclesiastical sites. Excepting the mirror and comb, no symbolical figures similar to

those on the Scottish stones occur in any other country. The mirror and comb, however, are found in some of the tombs of the catarchs at Rome.

On two stones only do we find inscriptions in alphabetical characters, namely at St. Vigvan's near Arbroath, and at the Abernethy sculptured stone at Newton Garrioch. The inscription on the stone at St. Vigvan's is in the same Celtic character as that on the early monuments of Ireland, and the more ancient monuments at Iona. There can be little doubt that it is the oldest piece of writing in Scotland, not excepting perhaps the ancient Celtic manuscript recently found at Trinity College, Cambridge, the *Glossary of the Saints*, supposed to be six or seven centuries older than any previously known to be in existence. So far as as unobscured, the inscription on the stone at St. Vigvan's reads thus, *Drosten ipe Veret del Foras*, which Professor Simpson, who is now almost as famous for his knowledge of such subjects as he is for that of his own profession, translates—*"Drosten the son of Veret (or Peredith) of the race of Fergus."* He has been enabled to translate it by referring to ancient Welsh or British rather than to Scotch Celtic analogies, although it must have seemed to him that all these are but dialects of the great Celtic tongue. His translation is confirmed to a certain extent, by references to ancient Scottish histories.

The stone at Newton Garrioch is inscribed in unknown characters. The late Professor Mill, of Cambridge, thought that they were Phœnician. Mr. Stuart, the author of the preface to the invaluable volume published by the Spalding Club, thinks he has discovered all the letters on pottery found by Layard at Nineveh. The only inference to be drawn from the fact that there are these sculptured stones, is that they were peculiar to a people on the north-east coast of Scotland.—*The Scottish Ecclesiastical Journal.*

## ST. PETER'S, ROME.

WRITING some days before the Canonisation Ceremonial, the *Times'* correspondent at Rome says:—"Only a few days have passed since I sent you a description of the interior of St. Peter's; but I was not satisfied with it, and so I went down again on Friday morning to get material for a better. On entering it, the impression of every one with any pretension to taste must be, I am sure, 'What labour has been taken to hide and destroy the effect of so much grandeur!' The first sight reminds one of the tawdry churches in Southern Italy, where paper and gilt and cheap drapery are used as substitutes for the creations of the sculptor and the painter, and I must confess to a feeling of intense regret at seeing this vast temple dwarfed in its proportions and muffled up in silk and cotton velvet. The facade of the church is not touched; but immediately over the entrance in the inside are the Papal arms on a shield, probably of paper, with the tiara above, and two archangels or geni of small proportions on the sides of the shield, in crimson velvet and yellow background, and in the interior, if you have ever seen St. Peter's you will remember the grand sweep of the nave from this point up to the baldachin over the tomb of the saint. The eye revelled and luxuriated in the mere spaciousness of the building, while the gigantic columns and the wide-spreading arches and the subdued colour of the grey marbles found a combination which awakened a sentiment of awe, and made one almost exclaim, 'Surely God is here!' All is now changed, for all is 'of the earth, of the earth, and for the earth.' Instead of the introduction of pictorial representations of incidents in the lives of the future saints; and thus you can no longer see on either side the colossal works in sculpture which all but breathe, and secure to the minds who conceived them a greater immortality than that of canonisation. Above each arch is a picture, painted in distemper, of some incident connected with the saint. There is an explanation underneath, and then hanging in series of yellow silk fall down to the ground; while over the upper part of the arch and underneath the picture is festooned crimson velvet. On each side of this central aisle or nave are five vast candelabra, which one might safely say are nearly 200 feet high, covered over with gilt, while three circles of candles are carried round them. In every interval between them are suspended gigantic candelabra, with several ranges of wax candles in them. St. Peter looks particularly small, and there is a want of elevation in the baldachin over his head, while the two mighty candelabra on either side greatly assist the effect of reduction; and now we stand before the tomb of the saint, which is surrounded by four of the same candelabra, encircled, like the others, with three rows of candles. Each transept on either side of the tomb is provided with twenty-nine of the candelabra and pictures, and has three descriptions of yellow and red crimson hangings, where cover up mirrors of genius. The Papal chair at the extreme end of the church is now a thing of cloth of velvet, the original chair having been removed; above it is a lunette representing the reception of the saints into Paradise; lights surround it, and rays of gilt dart out from every point about it. Portions of the side aisles are disguised and laden and decorated in the same way. Yellow and crimson everywhere; pictures in distemper everywhere; every altar has its crimson hangings, and every candle, and every altar is shrouded in cloth, or cotton, or silk, or velvet. One could almost weep at seeing the tawdry rubbish which covers up precious marbles and priceless statuary, and pilasters and columns built for eternity; and Michael Angelo, Raphael, and Canova, and all the others who form the bright galaxy of genius that raised this magnificent temple, might almost rejoice to be shrouded in the same base and ignominious covering as our own. When I have added that round the entire church, above the architrave, run two rows of candles, I shall have completed my report of this wonderful specimen of bad taste and of ingenious upholstery. In its *gnar* it is marvellous, but it is a bad *gnar*, and every one will, I am sure, be longing to see this stupendous temple restored once more to its simple grandeur.

Altogether, there are at least 100,000 lights, some assure me 150,000, and to give them full effect, every window is closed. Some apprehension is entertained lest this body of light may lead to an accident, and fire-engines are ordered to be in readiness. One certain result of all this muffling up and of blocking windows will be that one-third at least of the ecclesiastics who are entitled to attend the ceremonies will be excluded, while out of ninety Jesuits privileged to be present in private seats only thirty can be accommodated. Great disappointment is therefore felt in many quarters, for neither love nor money can enlarge St. Peter's."

## CHURCH, CHAPEL, SCHOOL, AND OTHER BUILDINGS.

### CHURCHES.

**POUCHEN-END, BRAT, MAIDENHEAD.**—This church has been lately consecrated. The buildings are erected upon land presented by Mrs. Newcome, and the church has been erected from a design of Mr. John Turner's, of Leam, by Mr. Robert Vickery, builder, Bury Wick, with funds supplied chiefly by Mrs. Lovett and others. The church is entered through an open open-timbered and tracery porch, situate on the north side, toward the west end, and is 52 ft. 6 in. long by 21 ft. wide, with a chancel of 23 ft. by 11 ft., and is calculated to hold 186 persons (144 adults and 42 children). There is a bell-tower over the west gable. The style of the design is Decorated Gothic. The materials used for the walls are red Berkshire brick and Bath stone, with an open-timbered roof, and the interior is covered with the fittings, altar table, altar rail, pulpit, reading and lecture desk, are executed in pitch pine. The greater part of the window tracery has been filled in with stained glass of a simple Gressaille pattern. The font, reredos, pulpit, lecture and reading desk, have been executed by Mr. White, of London; the other portion of the fittings by Mr. Mickle, of Bury; the stained glass by Messrs. Laver & Barnard, of London. Attached to the church on the north side is the robing-room, connecting the church with the school and dwelling; forming together the eastern and southern boundaries of a quadrangle. The new school-room is 22 ft. long by 18 ft. wide, with an open-timbered roof coiled between the rafters, and calculated to hold 50 pupils.

**ASPLEY GUY, LEICESTER.**—A stained window, representing "The Adoration of the Magi," has recently been placed in the parish church of Aspley Guy, Bedfordshire, and is dedicated to the memory of the late Prince Consort.

**WYTHAM.**—The upper portion of this church is undergoing the work of restoration. This is one of the few churches in existence in which a churchyard pathway runs through the basement of the tower.

**JACKMILL, HENFORDSHIRE.**—This church is about to be restored, and a great portion rebuilt, at a cost of £1,000. The foundation stone has been already laid. Messrs. Ainslie and Blashill, of Chelmsford, Essex, are the architects, and Messrs. Niblett and King, of Gloucester, the contractors.

**NORMANTON, DERBY.**—The parish church of Normanton by Derby has recently been opened for public worship. The new church has been erected upon the site of the old one; it was intended to have preserved and restored the old tower, but in a dangerous state it was removed. The new church is now provided for 300 persons, and the plan shows a nave and chancel, with south aisle, chancel aisle, and vestry. The internal arches and columns are of dressed stone; the nave and south aisle are paved with buff brick, and red quarries in patterns; and the chancel with Maw & Co's encaustic tiles; the pulpit of Derbyshire alabaster and marble. The sittings throughout are in open benches; these, with the remainder of the exposed woodwork, being stained and varnished. The new tower and spire rise upwards of 80 feet, and being situate on high ground, are seen for many miles round. The works have been executed by Messrs. W. & C. Bridgert, contractors, from a design by Messrs. Giles and Brookhouse, of Derby, architects.

**ST. ANDREW'S CHURCH, CHATHILL.**—This church, which has been re-built at the cost of the vicar, the Rev. J. H. M.A., is now completed. The plan is cruciform, consisting of nave and chancel, and north and south aisles, with the addition of a porch on the south side of the nave, and a sacristy on the north side of the chancel. A square tower rises from the point of intersection, having closely embowered parapets; and a quadrangular slated spirelet, surmounted by a vane. The Rev. Mr. Turner was the architect.

**STONE CHURCH, STAFFORDSHIRE.**—A painted window is proposed to be placed in Stone Church. The drawing of the window is by Messrs. Heaton, Butler, and Bayne, of London, and the cost will be about £300. The whole of the chancel of this church has been lately restored, the ancient features of the building being retained.

**FELSBURY, NEAR STAFFORDSHIRE.**—A new church is about to be built at Felisbury, Yorkshire.

**WYRABURY.**—The parish church of Wyrabury has lately been thoroughly restored, the chancel and the nave arches being the only portions of the old edifice that have been retained; the north aisle has been rebuilt, the old doorway therein (the only object it possessed of antiquarian interest) having been carefully copied. A new south aisle has been added. The nave, which was formerly covered with a plaster ceiling, is now, together with the north and south aisles, roofed over with handsome open timbering. The western gallery has been taken down, and the old west window opened. The church is now thoroughly re-seated with plain open benches, and the passages re-paved, and will be again open for service in the course of next month. The works have been carried out in a very satisfactory manner by Mr. Harley, of Slough, from the designs and under the superintendence of Mr. Ralph W. Bidson, who, some years back, rebuilt the adjoining parish church at Datchet.

### SCHOOLS.

**ST. PHILIP AND JACOB, BRISTOL.**—These schools were formally opened on the 11th Inst. The architects were Mr. A. Clarke and Mr. E. W. Godwin, of Bristol, who were recommended by Mr. G. C. Street, F.S.A. The building, which forms one side of Mary Bush Lane, consists of three principal stories, with intermediate floors at two ends of the buildings for the teachers' residences. The girls' school is on the top floor; measures 70 feet by 20, with a class-room 20 feet by 14, abundance of light being provided on both sides by bringing the building out to the line of the street. The boys' school and class are both on the floor under, of the same dimensions; the entrance to the boys' school is at the Queen Street end of Mary Bush Lane, through a small playground or court, and the girls' entrance at the opposite end. The ground-floor is occupied by a committee-room, various courts, and rooms for the use of the teachers. The schools are arranged to accommodate 170 boys and 170 girls, the total cost of the erection being only about £12,000. The architects have been careful to avoid bringing any soft or light stone within the reach of the children. With this view they have constructed all the entrances in a novel and effective manner, by doing away with all angles, and rounding the sides of the doorways, which are built of hard pennant stone. The contract was taken by Mr. R. M. Bryant, of Old Market Street, the sub-contractors being Mr. J. King, for the mason's work; Mr. Hill, for the tile's plasterer's, painter's and glazier's work; Mr. Tuckey, for the plumber's work; Mr. Loaman, for the iron work.

**BRISTOL.**—On Wednesday, June 18, some new schoolrooms were opened in Lower Street, Great Gardens, Bristol.

**St. George's, East.**—The new Middlesex Society's schools, recently erected on the site originally intended for the school for the education of the poor in the principles of the Protestant faith, but which were found too small for the requirements of this populous district, were opened on the 17th instant, by the Lord Bishop of London. The new schools are calculated to contain about 200 boys and 200 girls, and were erected at a cost of about £2,049.

**LEITH.**—A new school has recently been opened in the fishing village of Leith, on the Forth coast. The building is capable of accommodating between 300 and 400 children, and is a plain and substantial brick edifice. Messrs. Halcomb and Pike were the architects, and the cost of the building was about £700.

### BUILDINGS.

**MILFORD.**—A large Malthean, including engine-house, boiler-house, and workmen's cottages, is now in the course of erection at Milford Junction, abutting on the North Eastern Railway Line; it is one of the largest in the West of England, and when finished, it may be said to be a first-class model. The proprietor is Wm. Naylor, Esq., the extensive millmaster, of Leeds; the Architect, Mr. John Child, also of Leeds, and under his directions the works are being carried out by his assistant, Mr. William Henry Stead.

**NEW YORK LAW OFFICES, DERBY.**—The new building is situate in Black Street, Warwick, and contains on the ground-floor a spacious entrance hall, with large arched way leading to the principal staircase, in an inner hall. The exterior is built with pressed bricks and stone. The style of architecture adopted is Italian, and a successful attempt has been made to produce at once the effect of a public building limited in size, bold in design and detail, combined with elegance and simplicity. The front is 50 ft. wide and 35 ft. high; the centre, being reversed, a wing is formed on either side; the centre, containing principal entrance, is surmounted by curved stone panel, with descriptive inscription in raised letters and ornamental terminations. The parapet contains open stone balustrading on stone cornice. The upper windows have pilasters with carved capitals and deeply moulded circular architraves; also, open balconies supported on corbelled entablature; the whole facing of the lower part is of stone; the dressings to the lower windows, principal entrance, and staircase, are vermiculated with low rusticated joints, the several key stones being richly carved. The front is enclosed with suitable iron palisading, with exquisite gates and stone piers. The design selected in competition has been carried out by Mr. Dunsatoy, contractor, under the direction of the architects, Messrs. Giles & Brookhouse, Derby.

**RAMSEY.**—*Monks' Herald* says that a lady resident at Ramsey is about to erect a commodious House of Industry, for the benefit of that town and the parish of Maughfold, to serve as a monument to a noble brother, who, after having honourably served his country as the governor of a large dependency with integrity and noble disinterestedness, died on his return to his native country. The charity is already vested in trustees, who are in treaty to purchase an acre and a half, or more, of land, on which to erect the spacious building.

**BIRKENHEAD.**—The new County Court which has been erected at Birkenhead was opened for business on the 17th instant. The building is purely Italian in style, and has a very light, handsome appearance, forming quite an ornament to the neighbourhood. It stands upon 2,141 yards of land, and has been built by Government, at a cost of £75,000, of which sum, £1,000 was the building fund. The building was designed by Mr. Charles Verelst, Government architect, of London; and the contractor was Mr. Henry Fisher, builder, of Conway-street. Mr. Bethell was clerk of the works, under Mr. Reeves, the architect. The foundation-stone of the new court was laid on the 13th of November, 1860, by the judge, J. W. Hanbury, Esq.; so that upwards of eighteen months have been occupied in its erection.

**FOUNDATION STONES.**—The foundation stone of the new schools of the

district church of St. Andrew's, Croydon, was recently laid by the Rev. J. H. Randolph, rector of Sandstead. The foundation stone of a new district church at Lardon, in the Walscombe, was laid on the 9th inst. The church is to be built of granite stone, with windows and other architectural features in Bath stone; whilst the roof will be of open timber work covered with slates. The style of the building will be the "Early decorated Gothic," and will consist of nave, chancel, tower, and vestry, and will contain about 200 sittings. Mr. J. W. Howell, of the Devon Estate Office, Newton, is the architect; and Mr. Chulleigh, of the same place, is the builder. The foundation stone of a new church, in connection with the Torbay and Brixham Mission, was laid on 24th May. The church will be 65 feet in length, 38 feet in width, and will have steeples 60 feet in height. Mr. Holp is the designer and builder.—The foundation stone of a new Wesleyan chapel at Edgworth, was laid on Saturday last by James Barlow, Esq. The new building will be in the Gothic style of architecture, from the plans of Messrs. W. and A. H. Andrews, Bolton. It will accommodate about 300 persons.—On Wednesday afternoon, June 18, the foundation stone of a chapel for the Bible Christians of Weston-super-Mare took place. The chapel, which will be in the Italian style, is designed to accommodate 250 persons, and the cost of its erection will be about £400, which, with £140 purchase-money for the ground, together with other necessary expenses, will make the sum total of £540 to be provided. The builder is Mr. Richard Lewis of Weston.—The foundation stone of a new north side to St. John's Church, Bovey Tracey, Devon, was laid on the 16th instant.—The memorial stone of the Devonport, Stonehouse, and Cornwall Hospital was laid by the Earl of Mount Edgum, on the 17th instant.—June 13, the foundation stone of a Primitive Methodist Chapel at Old Shilburn, Durham, was laid with the usual ceremony.—The foundation stone of a new bridge across the Derwent was laid on 18th May. The bridge is to be completed by the 1st of November. The contract price is £492; and the contractors are Mr. Wm. Lyries, Crook; and Mr. Ayton, Thornley.—The foundation stones of two new Primitive Methodist chapels at Fyngill and Rocester, Staffordshire, have recently been laid.—On Whit-Tuesday the foundation stone of a new national school was laid at Staunton, by Lady Lechmere. The architect is Mr. G. R. Clarke; the builder, Mr. J. Griffiths, of Eildesfield. The estimate for the schoolroom, classroom, and minister's residence, including all internal fittings, laying out the grounds, &c., was £280.

#### GENERAL ITEMS.

**NOTTINGHAM.**—The *Nottingham Guardian* says:—"It has been decided by the town council to construct the subterranean portion of the new sewer on the new London model—that is, to form a continuous culvert from end to end, the drainage underlying it, and receptacles being formed along the route for gas and water pipes. This large tunnel is to be constructed at the cost of the owners of property on each side of the street, who will have the option of inclosing and using the half opposite to their several premises, on condition that they allow the use of all pipes, to parties authorised to inspect, alter, or repair the culvert or any of the pipes. The main object is, of course, to obviate the necessity of having recourse to the expensive, obstructive, and often annoying practice of taking up the pavement of the streets."

**THE ASSET NURSERY GROUNDS.**—The *Windsor Express* says that about eighty-four acres of the Round Allotment, hitherto yielding about £5 a year, which immediately adjoins a proposed hotel, has been leased by Mr. Standish, the enterprising proprietor of the Royal Nursery, Bagshot; and it will soon be converted into a spacious and, we doubt not, flourishing nursery-ground. Ultimately, as we are informed, the establishment will be entirely conducted here, instead of at Bagshot, this improvement realising the idea of converting a wilderness into a garden.

**MEMORIALS TO THE LATE PRINCE ALBERT.**—Subscribers are being raised at Warwick by the Rev. Mr. Bouldier, vicar of St. Mary's, and other gentlemen, to erect a substantial memorial to the late Prince Albert.—The Cambridge memorial is to cost £2,000. The subscribers are to decide whether it is to be of marble inside the Senate House, or of bronze in front of it.—The *Sydney Morning Herald* says that meetings continue to be held in all parts of Australia in aid of the project for erecting a statue to the memory of Prince Albert, and a very general sympathy towards the object has been expressed.—Subscriptions have been raised for the commencement of an endowment for St. Thomas's Almshouses, Gravesend, as a local memorial to the late Prince Consort. It is intended to place a tablet on a conspicuous part of the building, to record the object for which the fund was raised.—The foundation stone of a memorial to the late Prince Albert was laid on Monday, May 19, at Moreley. The memorial, of which Mr. R. D. Gould is the architect, will consist of a tower, 60 feet in height, to be called the "Albert Memorial Tower," the summit of which will be a four-sided illuminated clock, and, at the bottom, a drinking-fountain.

**THE NATIONAL MEMORIAL TO THE LATE PRINCE ALBERT.**—The architects who were consulted by the Queen's Committee have reported that, to carry out the frequently-expressed wishes of the Prince, they would propose the erection of a noble hall, as a seat of art or social science, to be built on the south side of the road opposite the proposed memorial, on the vacant ground at the back of the Horticultural Gardens. If this site should be approved, they would invite the individual efforts of the architect and the sculptor for its realisation. The memorial is proposed to consist of one or several groups of sculpture; and if placed in the open air, they must be of bronze, but if of marble, a building must be erected to protect them.

**STATUE OF HALLAM.**—Mr. Threl has just executed a statue of Hallam,

which is about to be erected in St. Paul's Cathedral. Somewhat above the life size, the historian is represented standing in his doctor's robes, pointing in hand. A happy thought has struck him, he wears a pleased expression of countenance, and while one hand has the pencil poised, the other grasps a manuscript volume in which to write. The lines of Hallam's face were a little hard, and the artist has happily softened them by the expression which he has put into them. The attitude is natural, and the drapery is cleverly handled. The folds are perfectly easy, and the texture is made palpable by happy touches of the pencil. The statue is an interesting work, may be seen in Mr. Threl's studio, in the course of preparation—as a statue of the Prince Consort in Highland dress, intended for Balmoral, and one of the Duchess of Kent, intended for the mausoleum at Frogmore. In both great ability is displayed, while the appearance of the Highland garb in the one case, and of a modern lady's dress in the other, will awaken the interest of all who know how difficult it is to deal with drapery in sculpture. For further particulars, see the *Illustrated London News*. The National Defences having been requested to reconsider, in conjunction with other officers, the subject of the construction of a fort behind Plymouth Breakwater, a supplemental report has been presented, stating, in the first place, that a fort on or near the breakwater is required for the more complete command and protection of the Sound. It would also be in the best position for supporting floating defences, and for affording protection to that portion of our sea-going fleet seeking refuge under its guns. The next question was, on what spot such a work should be placed. Its erection on the breaker itself is pronounced objectionable; indeed, the foundation could not be depended upon for a superstructure of such weight. The site recommended is the Shovel Rock, inside and near the centre of the breakwater, and as close to its inner slope as practicable. It is very well suited for the purpose for the foundation, and a fort in that position will not interfere with the anchorage of a single ship. Being protected from the wash of the sea, the lower tier of guns may be placed as low as the top of the breaker wall will allow; and communication with the fort will be practicable in all weathers.

**A NEW THEATRE ON THE RUINS OF POMPEII.**—At the moment of the destruction of the city of Pompeii by an eruption of Mount Vesuvius in the year A.D. 79, a theatrical representation was being given in the amphitheatre. A speculator, named Langini, having taken advantage of that historical reminiscence, has just constructed a theatre on the ruins of the above-named city, the opening of which he announces in the following terms:—"After a lapse of eighteen hundred years, the theatre of the city will be reopened with 'La Fuglia del Ragimento.' The rock is the locality and scenery, the continuance of the favour constantly bestowed on my predecessor, Marcus Quintus Martinus, and beg to assure them that I shall make every effort to equal the rare qualities he displayed during his management."

**A CONTRAST.**—Mr. G. G. Scott, in his lecture on the formation of a national museum at South Kensington, on the 17th inst., referred to the history of his lecture delivered before the Royal Academy. The rock is the locality and scenery, the continuance of the favour constantly bestowed on my predecessor, Marcus Quintus Martinus, and beg to assure them that I shall make every effort to equal the rare qualities he displayed during his management."

**A SINGULAR EDITOR.**—The last number of the *Birmingham Times* contains a short account of the Sturge Memorial at Birmingham. The account speaks of "Mr. Joseph Sturge, the Quaker, who it may be remembered was one of those sanguine gentlemen who conceived the idea of obviating the Crimean War, by going to Russia, and using their influence with the Emperor Nicholas to that end." It is said that he is now in India, and is about to be the eminent Birmingham philanthropist. Does the *Builder* think that it can snuff out the reputation of a great and good man with a sneer? For nearly a half a century Mr. Sturge was known as a large-hearted, active philanthropist. He took a prominent part in the agitations against the slave trade, slavery, and the Corn-laws. He was a perpetual worker and untiring labourer towards reformatories, model lodging-houses, temperance and peace societies, and all public efforts to educate, elevate, and christianise the people. Should the editor of the *Builder* perjure, during his lifetime, a tenth part of such useful labours as the late Mr. Sturge, the editor, deserves a memorial too.

**THE ACCIDENT TO THE UNDERGROUND RAILWAY.**—After many successive hours of unwearying labour, the engineer to the Metropolitan Board of Works, Mr. G. C. Fox, assisted by Mr. Fry, of the City of London, has, in a great measure, in turning away the danger of the Fleet Ditch from the extensive railway works at Copple-row, where the current, notwithstanding all the precautions that had been taken, was every hour doing more or less damage to the foundation of the brickwork in the immediate vicinity of the tunnel, as well as inside that admirable specimen of underground workmanship. Though the stream was not wholly controlled by the new dam at Copple-row, the force had been materially diminished, and no further damage need now be apprehended.

**IMPROVEMENTS IN LEICESTER.**—The old East-gates, which have long been regarded as a nuisance and obstruction to the public traffic of Leicester, are entirely cleared away. This alteration will cost the Corporation £6,000; but the work has been urged upon them by many gentlemen, who proved, by statistics, that the East-gate buildings were really dangerous to life and limb.

**THE MIDDLE LEVEL.**—The dam, which has at last been successfully constructed, is found to work efficiently, the flow of the tidal waters into the drain having been completely checked. Every day this week the work has been further strengthened, so as to enable it to resist the pressure of the tides, which will again prevail to-day and to-morrow. The drainage of the flooded country and the relief of the drain itself is to be effected by twelve great siphons, each of 3 ft. diameter; and it is expected that in a few days the "Middle Level inundation," which has become almost as familiar in men's mouths as "household words," will be merely a matter of local history. If report, however, speaks truly, something more will be heard on the subject in the courts of law, as the sufferers from the calamity intended to obtain some compensation, if possible, from the Middle Level Commissioners.

## CHIPS.

**THE** exterior of the ancient castle at Brechin, N.B., is now undergoing renovation.

Lord Dartmouth has made a magnificent offer to assign, as a recreation-ground for the inhabitants of Westbury, a piece of ground adjoining the railway station, twenty-two acres in extent.

The Prince Consort Memorial Fund in Ireland has already exceeded £5,000.

It is proposed to build a new Cattle Market for Newcastle. The total sum required is about £5,000.

As is proposed to erect a Lunatic Asylum for South Staffordshire.

On the line of railway at present being constructed between Barnardcastle and Bishop Auckland a monster bridge is in course of erection, which, when completed, will be several feet higher than the High-level at Newcastle. The situation of the bridge is either, or near Cockfield Fell.

Twenty-three pieces of china in the hall of the South Kensington Museum are valued at £37,000. They are marked "H" and "D"—the initials of Henry IV. of France, and Diana of Poitiers, and fifty-nine pieces only were made.

A drinking-fountain is about to be erected in Silver Street, Reading, by Mr. Martin H. Sutton.

The *Bristol Daily Post* says:—"We understand that Handel Cosham, Esq., of Shortwood Lodge, has purchased a piece of ground, near the Baptist Chapel, Thornbury, for the purpose of building a suite of Dissenting Free Schools, to which there is also some talk of a lecture-room being added. Mr. Cosham has also presented a considerable sum towards the building fund. The building will, we hear, be proceeded with shortly."

A memorial bust of John Locke, executed by Mr. Pappworth, is to be inaugurated at the next Quarter Sessions of that county, in the shire hall at Taunton.

A new Philharmonic Hall, 28 ft. by 50 ft., has been opened at Ramsgate. A renewal of divine service at the old church of St. Mary the Virgin, Dover castle, after the lapse of a century and three quarters, was, on Sunday, welcomed with considerable interest. This church has lately been restored.

A movement is on foot by the corporation of New York, to procure a plot of ground in one of the cemeteries in the vicinity of the city, where the bodies of all the New York Volunteers, who may die in defence of the Union, may be interred at the expense of the state.

The second and third conversations of the present session of the Society of Arts, will be held at the South Kensington Museum, on the 9th of July and the 8th of October.

At the examinations for 1862 of the Society of Arts, two prizes were offered for free-hand drawing. The first one, of £5, was obtained by Mr. Isaac Holloway, glass painter, at Messrs. Chance's library, Birmingham; and the second, of £3, by Mr. Thomas William Cann, draughtsman, at Messrs. Chance's library.

The attendance at the International Exhibition on Tuesday was more numerous than on any day since the opening, the admissions for payment being 61,311; by season tickets, 4,260; total, 65,571.

A new Post Office at Verth, in the Italian style of street architecture, is now completed.

On Saturday afternoon last, an explosion occurred at the percussion manufactory of Messrs. Walker, Graham Street, Birmingham, by which six people were killed, and more than thirty were injured more or less severely, four of whom are not expected to recover.

An extensive fire broke out in Quebec on the morning of the 7th. 120 houses were destroyed in the St. Lewis suburbs. The buildings were chiefly of wood, and inhabited by mechanics.

The joiners of Bolton are on strike for the Saturday half-holiday. It is proposed to erect a statue to the memory of the late Lord-Lieutenant of Devonport, the Earl Fortescue.

## Correspondence.

## THE SATURDAY HALF-HOLIDAY AND THE EXHIBITION.

Sir,—I hope you will continue to agitate the question of opening the International Exhibition on Saturdays as shilling days. For some time a praiseworthy effort has been made in and out of the metropolis to extend the Saturday half-holiday. And I am glad to say that from the time the idea was started in Manchester, some fifteen or sixteen years since, it has been making progress; and I know nothing more likely to promote the movement than opening the Exhibition for a shilling on Saturdays. It may be said that Saturday is an aristocratic day; that the upper ten

thousand delight to sport on that day at morning entertainments at the Zoological Gardens, the Crystal Palace, and other places; and that it would interfere with an established habit to let the multitude come between the wind and their nobility on Saturdays. I answer and say, that it is getting an established habit for the *workers* to enjoy themselves on that day too; and let the upper ten give way to the greater in this and in other things. I do not wish to interfere with the enjoyments of the aristocracy—neither do I wish the aristocracy to interfere with the enjoyments of the people. The rich and privileged may, if they think proper, make a select day of their own, say Wednesday, when they may have the Crystal Palace, the Exhibition, the South Kensington Museum, and other places, when there would be no fear of popular intrusion. Laborers should have its half-holiday, and Saturday should be set apart for the purpose. It would in every way be promotive of the public good. The arrangement I recommended would be a boon to hundreds of thousands, and a disadvantage to no one. It would establish a good precedent, encourage a good movement, and benefit Society. Why then hesitate for a moment in effecting the alteration?—A WORKER.

## TENDERS.

**WANDSWORTH ROAD.**—For fifteen cottages, Wandsworth Road. Mr. Cesar A. Long, architect.

Greg..... £1,575 0 0 Restell (accepted)..... £1,432 0 0

**KINGSTON.**—For repairs, Ventry Hall, Kingston.

Clavland..... £230 0 0 Vain and Vain..... £124 0 0

Wheeler..... £117 0 0 Wendland..... £120 0 0

Blades and Roberts..... £130 0 0 Hunt (accepted)..... £165 0 0

Taylor and Son..... £130 0 0 Herdson..... £100 0 0

**SHREVELEY.**—For the erection of the proposed Methodist New Connection Chapel, Shreveley.

Mr. William Hill..... Quantity supplied..... £5,000 0 0

**LOWER NEWBORN.**—For laying-out grounds, forming roads, terraces, and slopes, and drainage connected with the same, erecting a porter's lodge, and laying the corridors, &c., with the pavement, at the Jews' Hospital, Lower Newborn, Surrey. Messrs. Tidwell and Palmer, architects. Accepted tenders for lay-out grounds and the drainage.

Winn..... £500 0 0 For tile-paving in corridors, &c., &c.

For porter's lodge..... £320 0 0 Cannon..... £715 0 0

**WILLS.**

**DARTFORD.**—For alterations and additions to the English Presbyterian Church, Shrubland Road, Dartford. Messrs. Tidwell and Chamberlain, architects.

Palmer..... £318 0 0

Cannon..... £10 0 0 Wills..... £15 0 0

**NEW WANDSWORTH.**—For a pair of semi-detached villas, Park Road, New Wandsworth.

Mr. R. W. Gilbert..... £900 0 0

**CITY ROAD, LONDON.**—For bricklayer's work to houses in City Road. Mr. Cesar A. Long, architect. Accepted tender.

Boslie..... £750 0 0

**NORWICH.**—For the erection of a dining-hall, 70 ft. by 100 ft., at the Temperance Asylum, Norwich, for the Norwich Court of Guardians. Mr. J. S. Beeson, architect. Quotation supplied.

Whitaker..... £163 10 0

Chapman..... £103 10 0 Burrell..... £140 0 0

Plummer and Hooper..... £155 0 0 Munro and Son..... £102 0 0

Greenacre..... £149 15 0 Leach (accepted)..... £120 0 0

Brown and Bailey..... £140 0 0

**HUNTINGDON.**—The tender sent in by Mr. John Blitt, of Huntingdon, for the erection of the above corn exchange, has been accepted. £1,265. Mr. Robert Hutchinson, Huntingdon, architect.

**NEEDINGHAM.**—For repairing and restoring the village church of Holywell cum Needingham, Hunts. Robert Hutchinson, of Huntingdon, architect.

Richardson..... £59 17 0 Allen and Smith..... £255 0 0

Bunting and Son..... £16 0 0 Mason and Smith..... £16 17 0

Leaquest..... £65 0 0

**LEAMINGTON.**—For alterations at Lambrook, Berkshire, for William Budd, Esq. Mr. F. Warburton Street, architect.

J. Kirk..... £1,344 0 0 Bowley (accepted)..... £1,056 0 0

Nichols..... £1,300 0 0

**HOLMBACH.**—For the erection of two new wings to the Union Workhouse. The following are the tenders:

Barr, Warrington..... £1,700 0 0 Moore and Son, Spalding..... £1,100 0 0

Worwick, Long Sutton..... £1,580 0 0 Eisher Holbeck..... £28 0 0

Hever and Son, Holbeck..... £1,300 0 0 Clark and Son..... £48 0 0

Long Sutton..... £1,302 13 0 Clarke Samuel, Holwich..... £54 0 0

Mr. Samuel Clarke's tender for £540 was accepted. The architect's estimate was £540.

**PERKHAM.**—For congregation chapel and schools, Plymouth, Devon, and a chancel, architects, Manchester and Darley.

Perkham, Fincham..... £7,545 0 0 Sawyer, London..... £7,063 0 0

Southall, London..... £1,811 0 0 Finch, Plymouth..... £7,545 0 0

Mr. Finch's tender accepted for the chapel, which only is to be built at present.

**NEW STREET.**—For the restoration of the Parish Church at New Street, Worcester. Mr. John Norton, architect.

Hughes..... £2,045 0 0 Beeson and Son..... £1,674 10 0

Margison and Munn..... £1,984 10 0 J. Streeter..... £1,084 0 0

Broad..... £1,000 0 0 J. Dimont..... £1,020 15 0

Whitehead..... £1,000 0 0 J. Danks (accepted)..... £1,000 0 0

**WHITECHAPEL.**—For alterations to Messrs. Meyer and Nutter's Premises, High Street, Whitechapel. Mr. John Hanson, architect.

D. King..... £709 0 0 Read and Son..... £774 0 0

T. Little..... £910 0 0

**LEAMINGTON.**—For the erection of a warehouse, Wood Street, City, for Mr. Brett. Tidwell and Chamberlain, architects. Quantities supplied.

Myers and Son..... £3,219 0 0 Wills..... £1,825 0 0

Paget and Wheeler..... £2,075 0 0 Fulk..... £1,070 0 0

Lawrence and Sons..... £4,355 0 0 Cannon..... £4,610 0 0

Culley and Sons..... £4,755 0 0 Brass (accepted)..... £4,550 0 0

Hill, Keddell, and Robinson..... £4,946 0 0

**HARVEY ROAD.**—For the erection of a new Congregational Church in Talnher Square, Hampshire.

Hamper and White..... £3,591 0 0 Myers and Sons..... £4,082 0 0

Page and Wheeler..... £2,575 0 0 Cannon..... £4,262 0 0

Titterton..... £3,072 0 0 Jackson and Shaw..... £4,302 0 0

Thor. Richards..... £3,078 0 0 Dave, Brompton, Chapel, & Sons..... £4,262 0 0

Thornhill..... £3,078 0 0

**HUGG.**—For the erection of a new Congregational Church, Hugg, Surrey. Mr. Powell and Milly.

King, Burton, and Co..... £3,284 0 0 Jermy..... £2,780 0 0

Angley and Harner..... £1,750 0 0 J. Kelly..... £2,300 0 0

Lawrence and Sons..... £1,865 0 0 Burnett and Spink..... £1,865 0 0

Myers..... £2,075 0 0 Adamson and Nott..... £3,991 0 0

Page and Wheeler..... £2,075 0 0 Sharp and Nott..... £3,991 0 0

Tracy and Co..... £2,075 0 0





AUG 23 1944



